

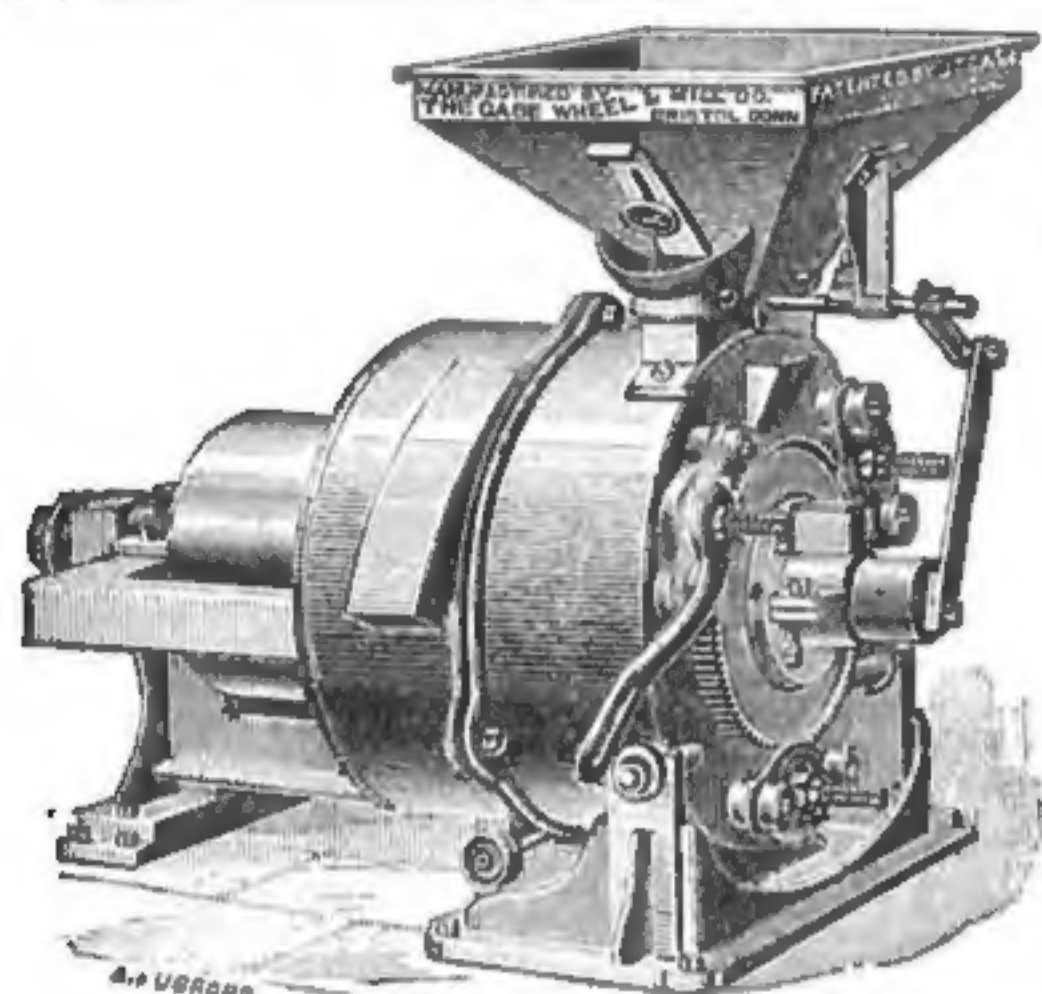
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XX. No. 13.

BUFFALO, N. Y., MAY 27, 1889.

\$1.50 PER YEAR.



VICTORY OVER ALL OTHERS. SINGLE & DOUBLE VERTICAL GRINDING MILLS.

(J. T. CASE'S PATENT.)

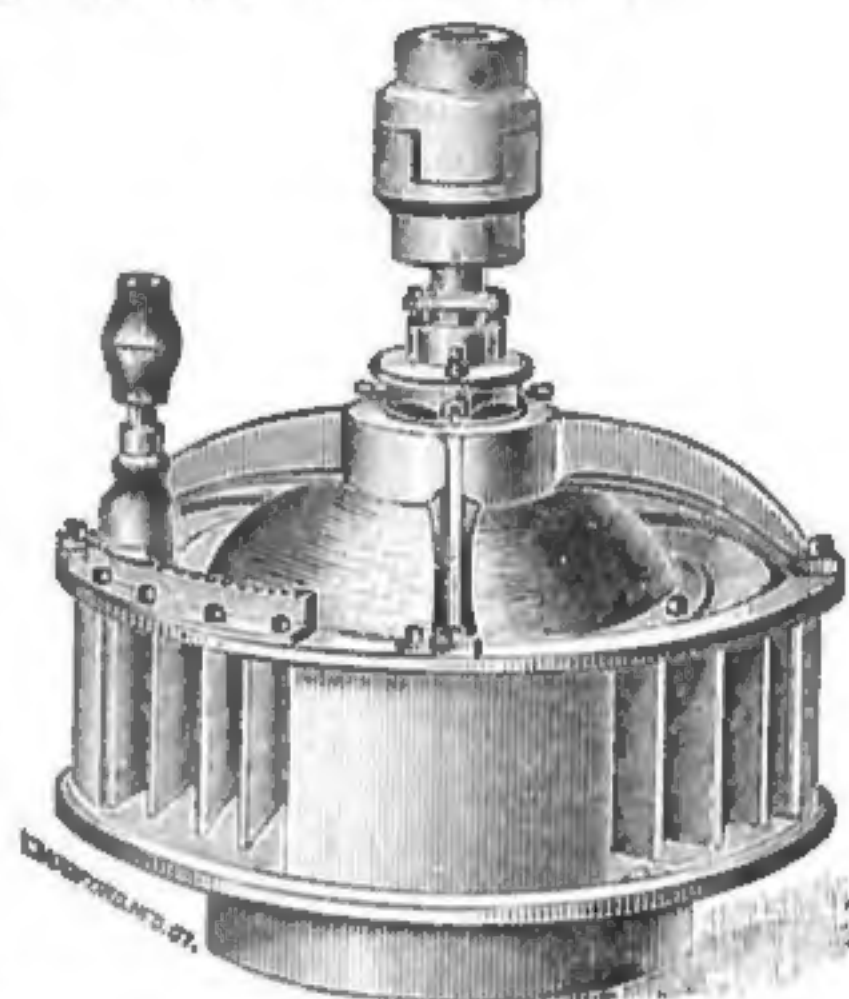
FACTS ARE MIGHTIER THAN ASSERTIONS. READ WHAT THEY SAY:

"Our 20-inch mill made by the Case Wheel & Mill Co. is in every respect satisfactory, easy to handle, and best results obtained of any mill in the country, with same quantity coal and power."—A. S. RUSSELL & Co., Meriden, Conn.
 "Superior to any mill in use."—Geo. WESTON, Bristol, Conn.
 "The best satisfaction in quantity and quality."—CHILD'S ELEVATOR, Manchester, Ct.
 "We take pleasure in recommending it."—GARLAND LINCOLN & Co., Worcester, Mass.

SEND FOR CATALOGUE—ILLUSTRATED AND DESCRIPTIVE.

The Improved National Turbine Water Wheel

The Best for Economy; The Best for Durability; The Best for Power. ONE THOUSAND FIVE HUNDRED NATIONAL WATER WHEELS IN USE Prove that our Assertions are Supported by the Leading Manufacturers in the Country. Send for illustrated catalogue and prices to the manufacturers.



The Case Wheel & Mill Co., Bristol, Conn.

THE ONLY NOISELESS SIEVE SCALPER.



Bran Duster.

Immense Capacity.

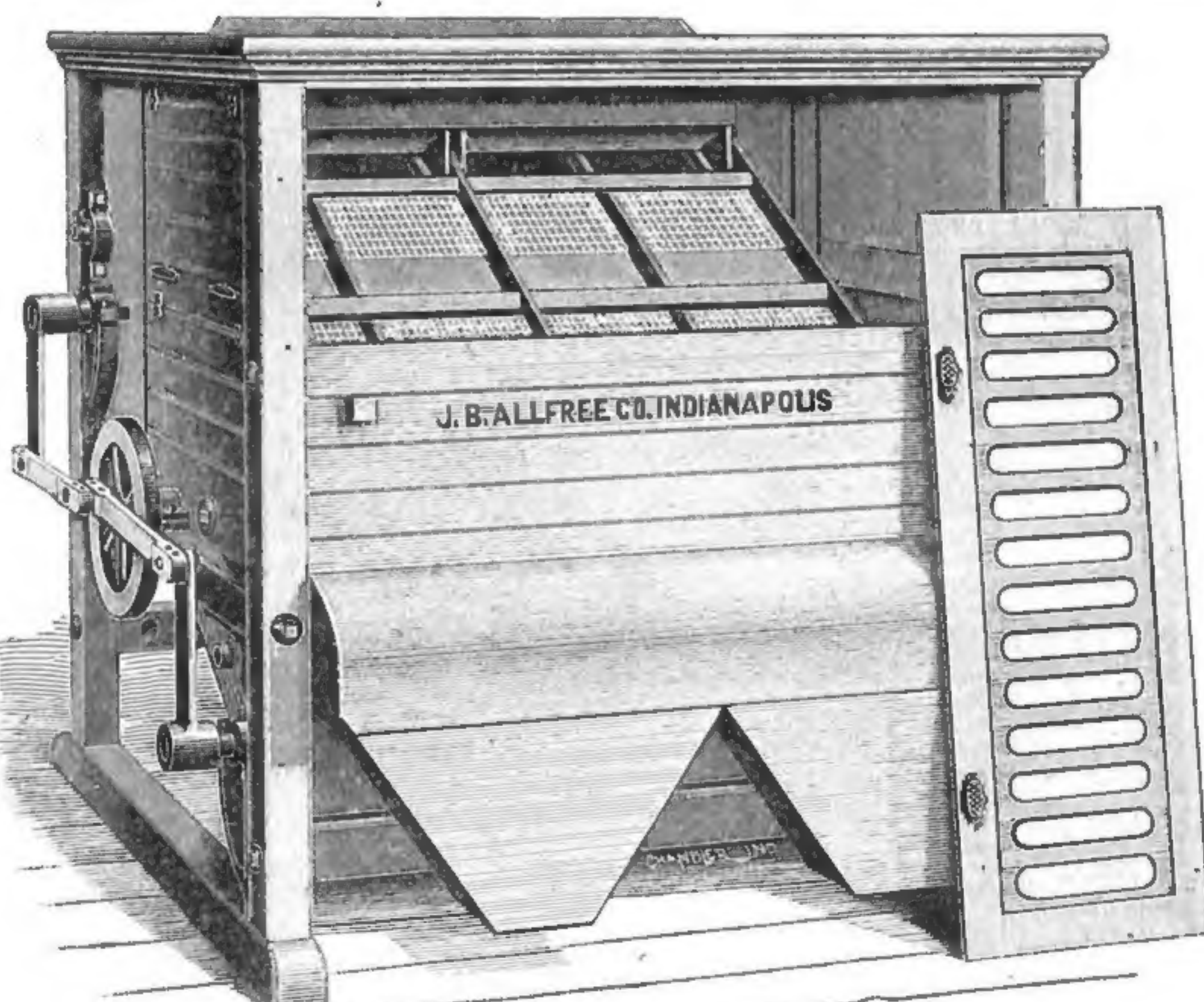
Power

Required

Merely

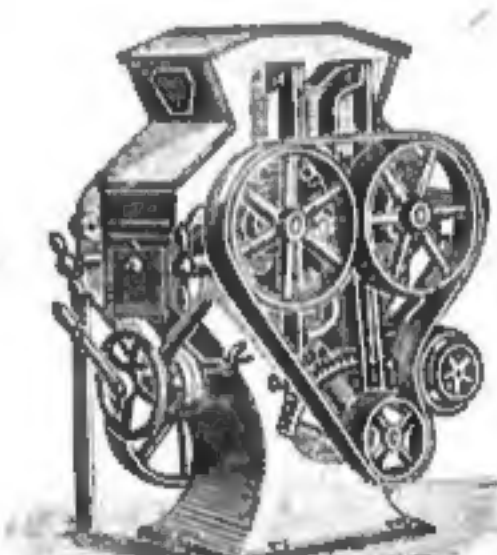
Nominal.

It will Take Care of
3 or 4 Breaks in a
100-Barrel Mill.



The J. B. Allfree Sieve Scalper.

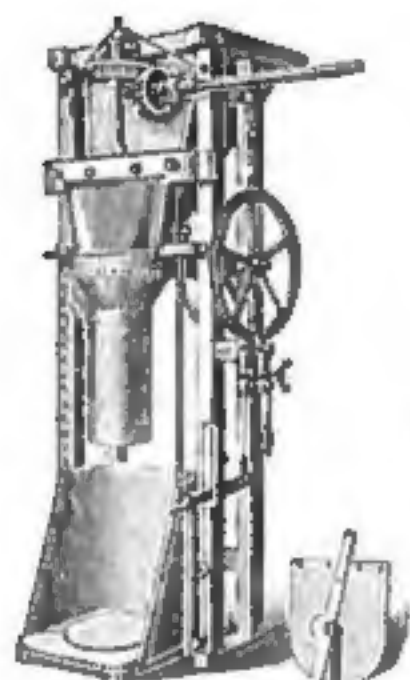
— ADDRESS FOR PRICES, ETC. —



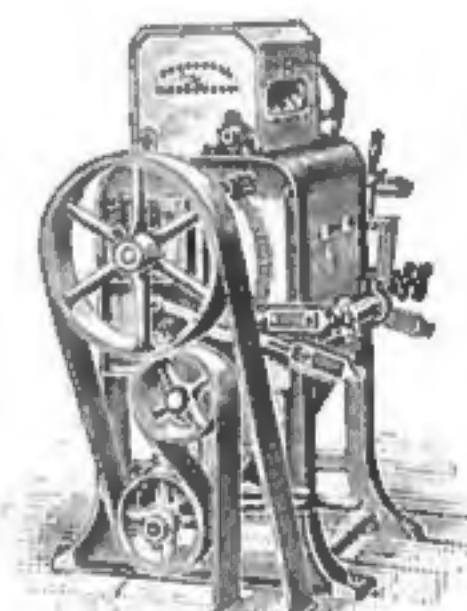
Wheat Roller Mill.

Buy our Scalpers and
thus avoid the terrible
racket made by
other machines; ours
is Noiseless.

It will Take Care of
1 Break in a 500-
Barrel Mill.



Flour Packer.



Corn Mill.

The J. B. Allfree Co., Indianapolis, Ind.

Mill Builders and General Mill Furnishers.

DUFOR BOLTING CLOTH A SPECIALTY.

Some Millers' Opinions

EXPRESSED THIS YEAR, 1889.

SHREVE, O., Jan. 25, 1889.
THE CASE MFG. CO.

Gentlemen: We called at Bank Jan. 22d and paid our last note, which we believe closes our dealings so far as our contract with you for remodeling our mills is concerned. We want to say that we are entirely satisfied with all our dealings with you. Our mill is all we could expect, and is doing us good work. Extending to you our best wishes, we remain,

Very respectfully yours,

FOLTZ & BRENNAN.

WAVERLY, O., JAN. 27, 1889.
THE CASE MFG. CO.

Gentlemen: Although it has been but a few weeks since I have gotten my Waverly Roller Mills started as recently re-furnished with your system of breaks and rolls, yet I have already learned to my satisfaction that your outfit of milling machinery is the best in use to-day. I am now making a grade of flour that is equaled by few and excelled by none, in fact superior to any flour produced in this part of Ohio, and is fast distancing all competitors in the market. I can conscientiously recommend you as General Mill Furnishers.

Yours truly,

JAS. EMMETT.

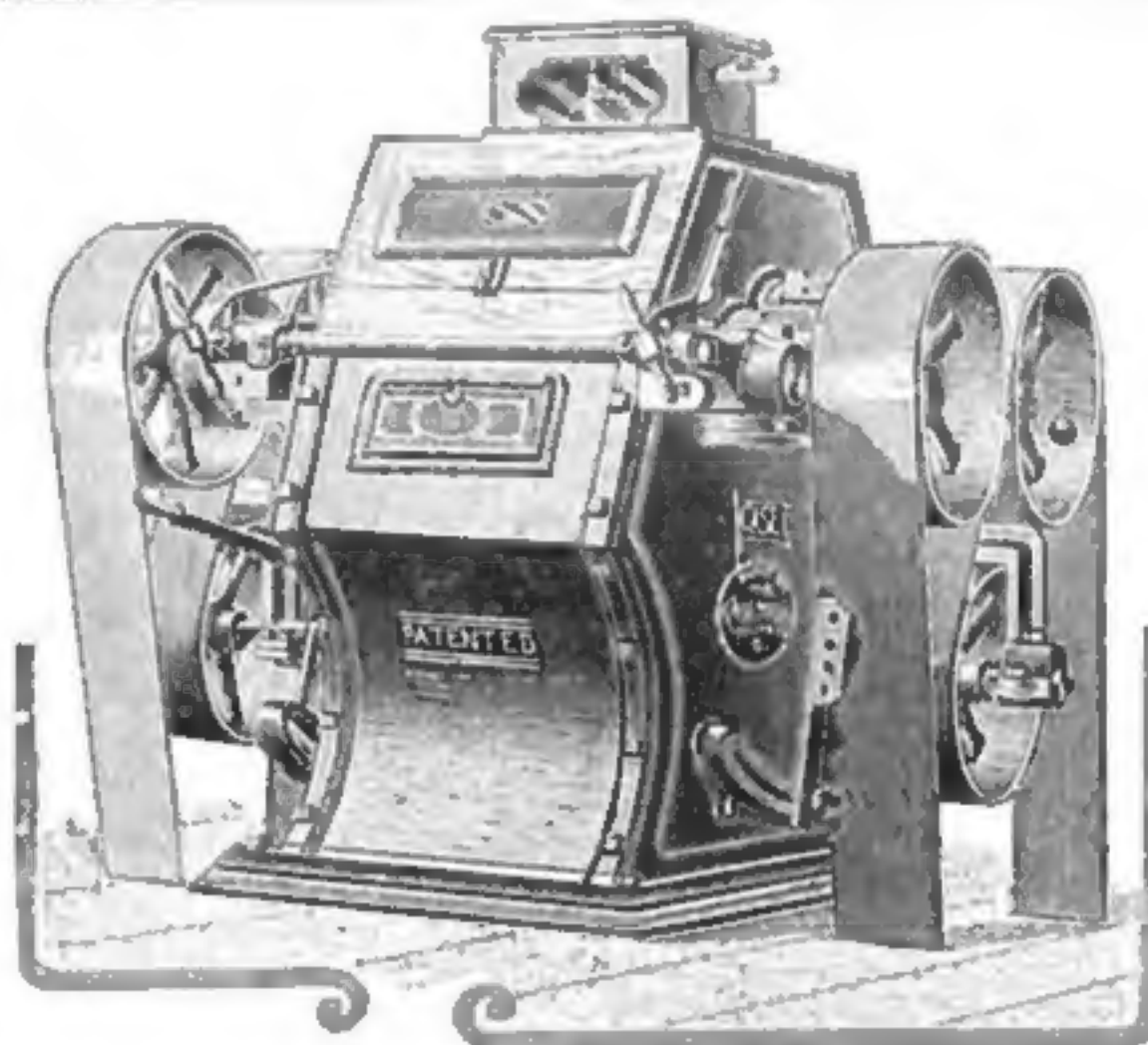
E. M. NEWTON. D. B. SMITH. G. TERRY.
OFFICE OF GUTHRIE MILL CO., }
GUTHRIE, KY., Feb. 26, 1889. }
CASE MFG. CO.

Gentlemen: Yours of the 20th to hand and in answer to inquiry about the five Inter-Elevator Flour Dressers bought of you will say that they are working perfectly satisfactory, and we regard them as being the best bolts we have ever seen, and if we had to build another mill, would use no other. We will take pleasure in showing and recommending them to any one who may be in need of a Flour Dresser. Wishing you much success in the future, we remain,

Yours truly,

GUTHRIE MILL CO.,

By E. M. Newton.



The Gem Roll of the World.

LEONIDAS, MICH., Feb. 4, 1889.
THE CASE MFG. CO.

Gentlemen: In reply to yours of the 31st ult., as to how I liked your machinery, would say I have a 3-break mill using 3 double stands of 6x18 Case rolls, one double stand of 6x15 rolls made by another firm. We started our mill September 1, 1888, and I must say *your rolls are more than you claim for them.* They started from the word "go." Not a single "hot journal," or any thing else to cause any trouble in the least. The other stand has been a continual bother from the start, running hot, and the feed would not work only in bunches, and let me say right here *that they cost me more money than the Case did.* and I mean in the near future to displace it by a Case. Your feed is *simply perfect.* It feeds even the full length of the rolls, and the beauty of all is we can stop and start the Case Rolls without touching a single lever; the other stands wants two men to stop and start. I also have a double stand of 9x18 Case rolls for feed. It does good work with half the power a 36-inch buhr took for same amount of work. Should you wish to send any parties here to see my mill at work, I can prove to them all I have said. With very best wishes to the Case Company, I am, very respectfully yours,

GEO. ENGEL,

Successor to Espenhain & Engel.

WE BUILD NONE BUT FIRST-CLASS MILLS

AND WILL GUARANTEE

Each Mill We Build to Produce Results Excelled by None

COMPLETE LINE OF MILL SUPPLIES AT LOW PRICES.

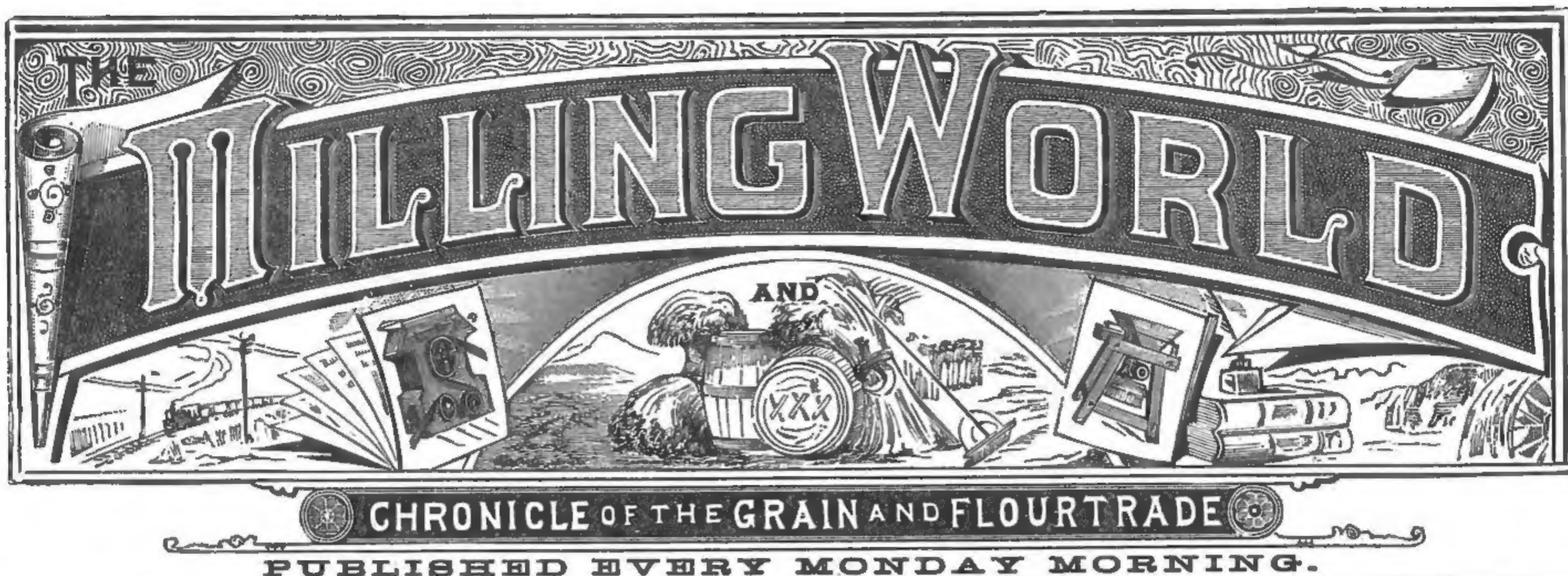
We have the most Complete Plant for Regrinding and Recorrugating Rolls, and put in Any Style Cut Desired.

MACHINE WORK OF ALL KINDS DONE PROMPTLY.

—ADDRESS—

THE CASE MFG. CO., COLUMBUS, O.

PLEASE MENTION "THE MILLING WORLD."



VOL. XX. No. 13.

BUFFALO, N. Y., MAY 27, 1889.

\$1.50 PER YEAR.

PROBABLY it is well that no man has been invited to give an exposition of milling practice at the Milwaukee convention. The official programme appears to have left no room for practical work, and a repetition at Milwaukee of the treatment accorded to Mr. J. M. Case and other practical experts at the Buffalo convention, in 1888, would seriously endanger the reputation of the managers for good taste, good breeding and good manners.

THE Milwaukee convention programme includes one topic labeled: "Foreign and domestic crop information exclusively for members." Wonder if that means another dose of S. T. K. Prime in the role of a Jeremiah with Lamentation accompaniment wailing over the "disastrous failure" of the wheat-crop? If that is the meaning of it, the association does well to confine the keening of Prognosticator Prime to the limited membership of that organization. All the reliable information obtainable concerning the crop prospects will be known to the 65,000,000 people of the United States, at the same time, through the same channels and quite as thoroughly, as to the few men who compose the Millers' National Association of the United States. Still, if Prime is to be unbottled, let it be done bottledly in the seclusion of the convention.

THOSE who would like to see a regular millers' convention in Milwaukee, in June, can not help thinking how profitable it would be, and how attractive it would be, to have such men as Jonathan Mills, R. James Abernathey, and others equally well known, to give to the convention the latest and most important achievements in the line of flour-making. Take Mr. Abernathey, for instance. What a list of short-system mills he could give, what a display of samples of short-system flour in comparison with long-system flour, what instructive flow-sheets he could present, and what a variety of useful hints, facts and bits of experience as a miller and mill-wright he could give. There is plenty of good material that could be used to make the convention attractive to the rank and file of millers, but it seems to be definitely settled that none of it is to be employed at Milwaukee.

BRITISH bakers, millers and scientists are discussing the question of milling single wheats. To a man up a tree there would seem to be but one side to that question, but the British millers, who have profited from their practice of grinding "blended" wheats, do not like to abandon that practice and allow the British baker to "blend" the flours. Professor Jago, who brought about the present discussion by a paper read at a bakers' convention some time ago, is evidently gaining converts and supporters for his contention that the only business-like, scientific, logical and satisfactory way to grind is to grind wheats separately and leave the bakers to do the blending. The discussion in Great Britain has a direct interest to the millers of the United States who send flour to that country. It is certain that, in case the more important British mills adopt the plan of milling wheats singly, there will be a decided change in the proportions of American wheat flour and wheat grain called for in Great

Britain. If the British millers can, as they claim, import American wheat and make it into better flour than American millers make of the same grain, there are likely to be some interesting changes in the breadstuff trade figures in the next few years.

WITH the passage of "The Milling Engineer" from the sphere of private organship, the last American milling journal of any merit or influence has ceased to be the mere mouthpiece of a manufacturing house. Not long ago there were six or seven journals that were issued by milling-machinery houses. One by one the publishers found that sort of advertising unprofitable, and their private organs were sold to others. In every case excepting that of the "Milling Engineer" the change from private organship to independent ownership was marked by a decided improvement in tone and influence, and to-day American milling journals as a class are far in advance of what they were before they achieved their emancipation. There have been collapses, disappearances and disappointments in the field, but the sifting process has improved the survivors, and no interest in the United States is better represented journalistically than the milling interest.

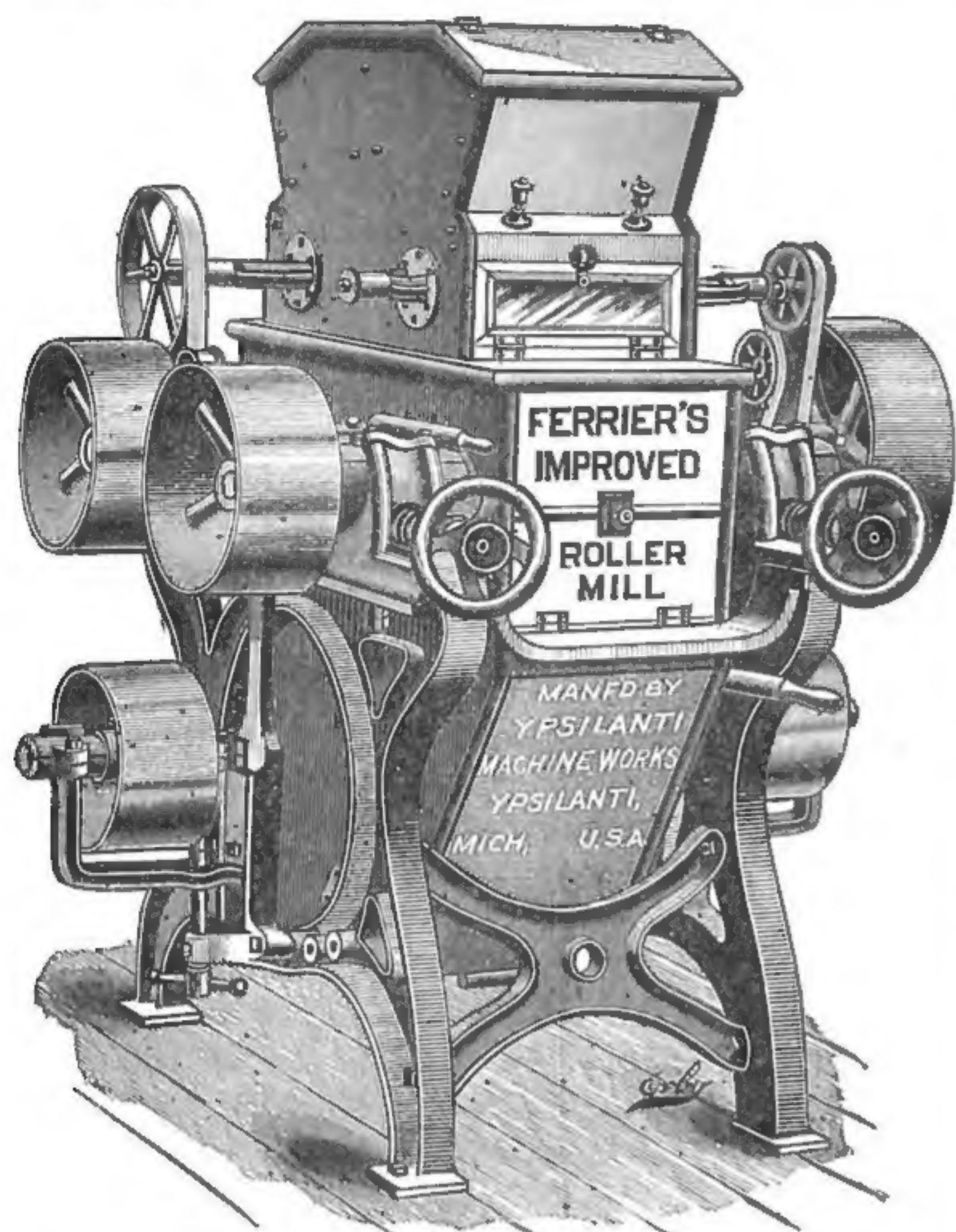
EARNEST endeavor to learn from the published programme of the coming convention of The Millers' National Association, in Milwaukee, just to what extent that convention will be a "millers' convention" does not reveal much to encourage those who had hoped for a new departure at this particular meeting. So far as the programme shows, there will be absolutely nothing done, or said, or suggested that will be of the remotest practical interest or value to the average American miller. It is to be a convention wholly and solely in the interests of exporting millers, a convention devoted to the hauling and selling of flour, without a single reference to the making of flour. We believe the managers are making a fatal mistake in this matter. A "national association" that looks after the interests of the millers who export from 8,000,000 to 12,000,000 barrels of flour annually, while ignoring the millers who produce from 58,000,000 to 65,000,000 barrels of flour annually for home consumption, is not really "national." It is an "Exporting Millers' Association," and that is the name it should adopt and bear so long as it is manipulated by its managers and members on the present apparent line of policy. The amiable but deluded gentlemen who are in control should not be surprised in case the Milwaukee convention is but slimly attended. They are deliberately turning the association into a very exclusive concern and thereby making it attractive to a very limited number of millers. It is unreasonable to expect a miller to travel from Buffalo, Rochester, New York, Philadelphia, Baltimore, Omaha, St. Louis or San Francisco to Milwaukee to attend a convention which he knows will not touch his interest in the milling business. The "small millers" have been more or less distinctly and directly informed that they are not worthy of consideration in the councils of the association, and they are not likely to intrude. Messieurs Managers, do you not think it is wise to make a bid for all the millers of the United States?

YPSILANTI MACHINE WORKS, YPSILANTI, MICH.

MILL BUILDERS

And Manufacturers of

FLOUR MILL MACHINERY



Sizes of Ferrier's Improved Four-Roller Mills.

6x12	6x15	6x20
9x15	9x16	9x24

YPSILANTI MACHINE WORKS, YPSILANTI, MICH.

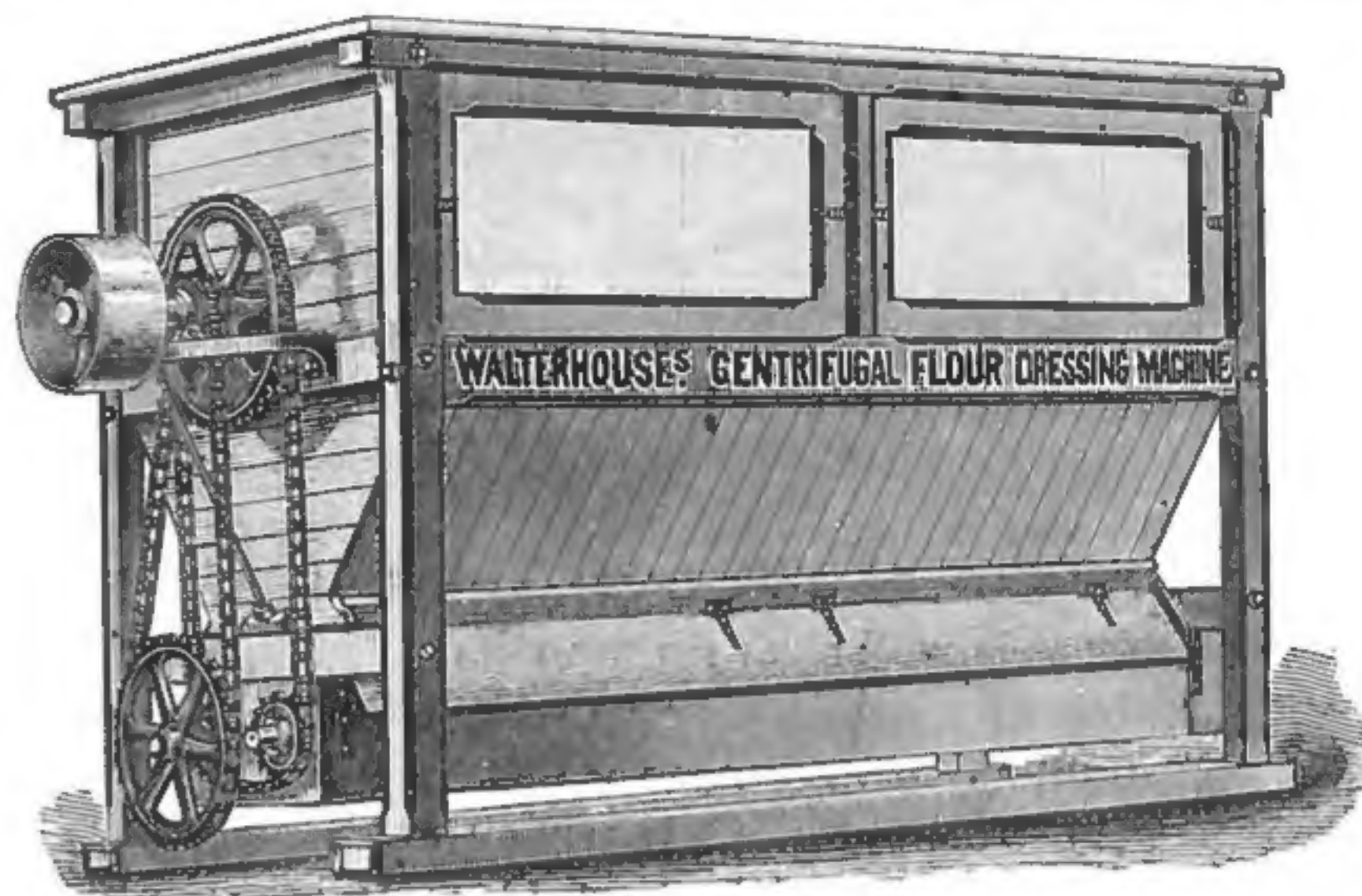
Gentlemen: We have had a line of your "Roller Mills" in use for over two years, and they have given entire satisfaction in every respect. They work like a charm, and their ease of adjustment and solid structure, together with the excellent finish you give them, can but recommend your machines to the milling public.

Yours respectfully,

A. R. DICKINSON & CO.

NASHVILLE, TENN., MAY 3, 1889.

Dealers in Bolting Cloth. Walterhouse's Centrifugal; Walterhouse's Slow-Running Flour Dresser; Inside Cylinder; Plain Round Reels; Scalpers; Bolting Screens, Etc., Etc., Etc.



JOHN ORFF, PROPRIETOR OF
EMPIRE FLOURING MILLS,
FORT WAYNE, IND., APRIL 10, 1889.

YPSILANTI MACHINE WORKS, YPSILANTI, MICH.

Gentlemen: The Centrifugal Reel bought from you some time ago is doing its work complete in every respect. It does a large amount of work, and does it well. Should we make further changes in bolting, shall use more of them. Wishing you success, we remain,

Respectfully,

JOHN ORFF.

To YPSILANTI MACHINE WORKS.

OFFICE OF LEXINGTON MILL CO.,
LEXINGTON, MICH., JAN. 23, 1889.

Gentlemen: In reply to yours of June 5th, would say that we are well pleased with our mill. It has more than met our expectations. Although it was feared that the six-inch rolls would not prove a success, we find them to be complete in every respect. We are making as fine a flour as there is made in the state, and we guarantee our patent to be equal to Minnesota Patent. The mill has given us no trouble whatever since we started it, and for plan and workmanship, your Mr. G. Walterhouse deserves great credit. If your friends doubt it would be pleased to have them come and see for themselves.

Yours respectfully,

LEXINGTON MILL CO.

Dawson's Roller Mill

Is acknowledged to be the very best in the market. It has our Patent Automatic Centrifugal feeder, never failing to feed the stock the full length of rolls in an even sheet. It is the Latest and Best feed out, uses less power and is simple in construction. It can be placed on any style of machine with little expense. We use for roll bearings phosphor-bronze metal which will admit rolls being run at any speed without heating and with little friction, and uses little oil. We use the Dawson Corrugation, which is admitted the best in long or short system mills as the action is granulating rather than CUTTING.

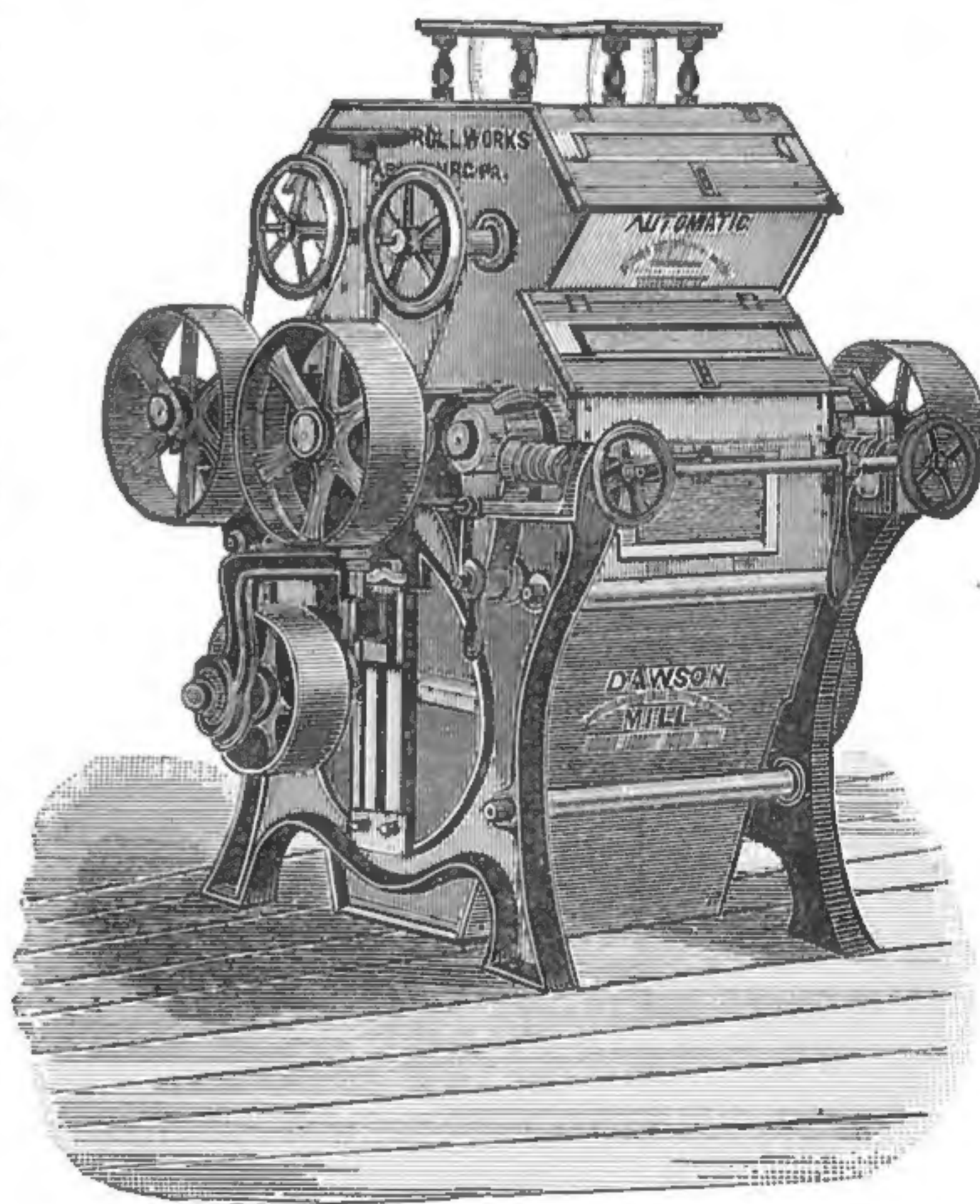
We have a large plant to Re-grind and Re-Corrugate Rolls.

Owing to our late increased facilities and central location we are enabled to ship goods promptly on the shortest notice.

PARTIES CONTEMPLATING REMODELING THEIR MILLS OR BUYING ANY ROLLER MACHINES ARE REQUESTED TO PUT THEMSELVES IN CORRESPONDENCE WITH US.

FOR PRICE LISTS AND CIRCULARS, ADDRESS,

Dawson Roll Works, Harrisburg, Pa.





PUBLISHED EVERY MONDAY. OFFICES: { Corner Pearl and Seneca Streets,
Over Bank of Attica.
McFAUL & NOLAN, - - - PROPRIETORS.
THOMAS McFAUL. JAMES NOLAN.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in unregistered letter at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Rates for ordinary advertising made known on application.

Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning, to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trades.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

THE MILLING WORLD,
BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

BUCKWHEAT MILLING A SPECIALTY.

A reliable Roller Miller wants work. Can make one-third more buckwheat flour than average millers, conditions the same. Granulated meal, etc. H. N. Z., 228 James street, Buffalo, N. Y. 710

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 3 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office, 10 cents must be added to pay postage.

MILL FOR SALE.

Flour mill; water power; good location; on easy terms. For information address, THOS. BRODERICK, Byron, Olmsted County, Minn. 611

FOR SALE OR RENT.

Grist-Mill and Woolen Factory. Also large two-story frame building. Very convenient for woodenware works. Good water power and shipping point, on line of three railroads. Apply to M. D. OLNEY, Irvine, Warren county, Pa. 811

FOR SALE.

Several good second-hand and new turbines of various styles. Second-hand price list and descriptive matter and prices of our new machines sent free. Every one interested in the shortest route to successful milling on rolls or in grinding corn and feed with the least expense of power, should address us before buying.

FLENNIKEN TURBINE CO.,
Dubuque, Iowa.

8tf

MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.
One 20-Inch Vertical Portable Mill, French Buhr Stone, hung on horizontal shaft; capacity 25 to 40 bushels per hour; new, best make.
One 14-Inch Vertical Feed Mill; best make, new, a bargain.
One No. 6 Dustless Separator; new, a bargain.
One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.
Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.
Two No. 1 Corn Shellers. New.
One No. 2 Purifier. New. Best make. A bargain.
For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 5tf



If you are desirous of obtaining the best Mill or Cob Crusher, send for our catalogue and be convinced that our's fill the bill. Can not fail to please you. They are guaranteed to prove as represented.

C. C. PHILLIPS,
OFFICE, 20 SOUTH BROAD STREET,
PHILADELPHIA, PA.

NEVER-FAILING WATER-POWER

FOR SALE OR TO LET.

Situated at the junction of two rivers, 95 miles from New York City, on the West Shore Railroad. Mill site against track. A NATURAL ROCK DAM with from one hundred to one thousand horse power. Railroad siding on premises. Station, post and telegraph offices in sight. Factory employes to be had at low wages. Further particulars given by addressing. 411

HOWARD FINGER, - - SAUGERTIES, N. Y.

FOR RENT CHEAP.

A hundred-barrel flouring mill, and the late roller improvements, a large feed grinding trade in connection. Mill has a good exchange and local flour trade, situated on the C. and N. H. Ry. at Harvard Junction, sixty-three miles from Chicago. THE HARVARD SEWING MACHINE CO., Harvard, Ill. 1215

FOR SALE.

"Genesee Valley Mill," situated 27 miles south of Rochester, N. Y., on the Genesee River. Abundance of water power at all times. Western New York & Pennsylvania R. R. runs past its door. No carting needed; loads and unloads cars by elevators and spouting. Coal sheds, etc. Good trade. Size of main building 80x50 feet, four stories; wing 80x88 feet, two stories high. Three sets of first-class stones, one double set of rollers, all in good order. Large pump in mill to supply water for large salt block near by. Pump pays about \$300 per year. Splendid wheat country. Suitable dwelling house near by. Inquire at mill, or address, S. H. BASOM, Administrator, Alabama, Genesee county, N. Y. 1114

WONDER who will "do" the resolutions at the Milwaukee convention in June? Wonder if they will be "done" or "queered" as they were at the Buffalo convention?

MILLERS who attend the convention at Milwaukee will have a good time. We understand that liberal preparations for entertaining the visitors have been made. Recent changes in certain quarters in Milwaukee may have disarranged some plans, but it is certain that Milwaukee hospitality will be found abundant and cordial.

ANNOUNCEMENT is made that our esteemed German cotemporary, "Die Berliner Mueller-Zeitung," published in Berlin, Germany, has passed into the possession of Messrs. Goedecke and Gallinek, who will change its title to the "Deutsche Muehlen-Industrie." We wish the new managers success and the journal under its new and more comprehensive title all manner of prosperity.

SPECULATION is safe from specific attack, so far as the Milwaukee programme is concerned. Perhaps the attack on Speculation will be made behind closed doors and under the direction of certain prominent St. Louis members, who are generally thought to be quite well acquainted with the freckled hydras, gorgons and chimæras dire classified under the bugaboo cognomen "Speculation."

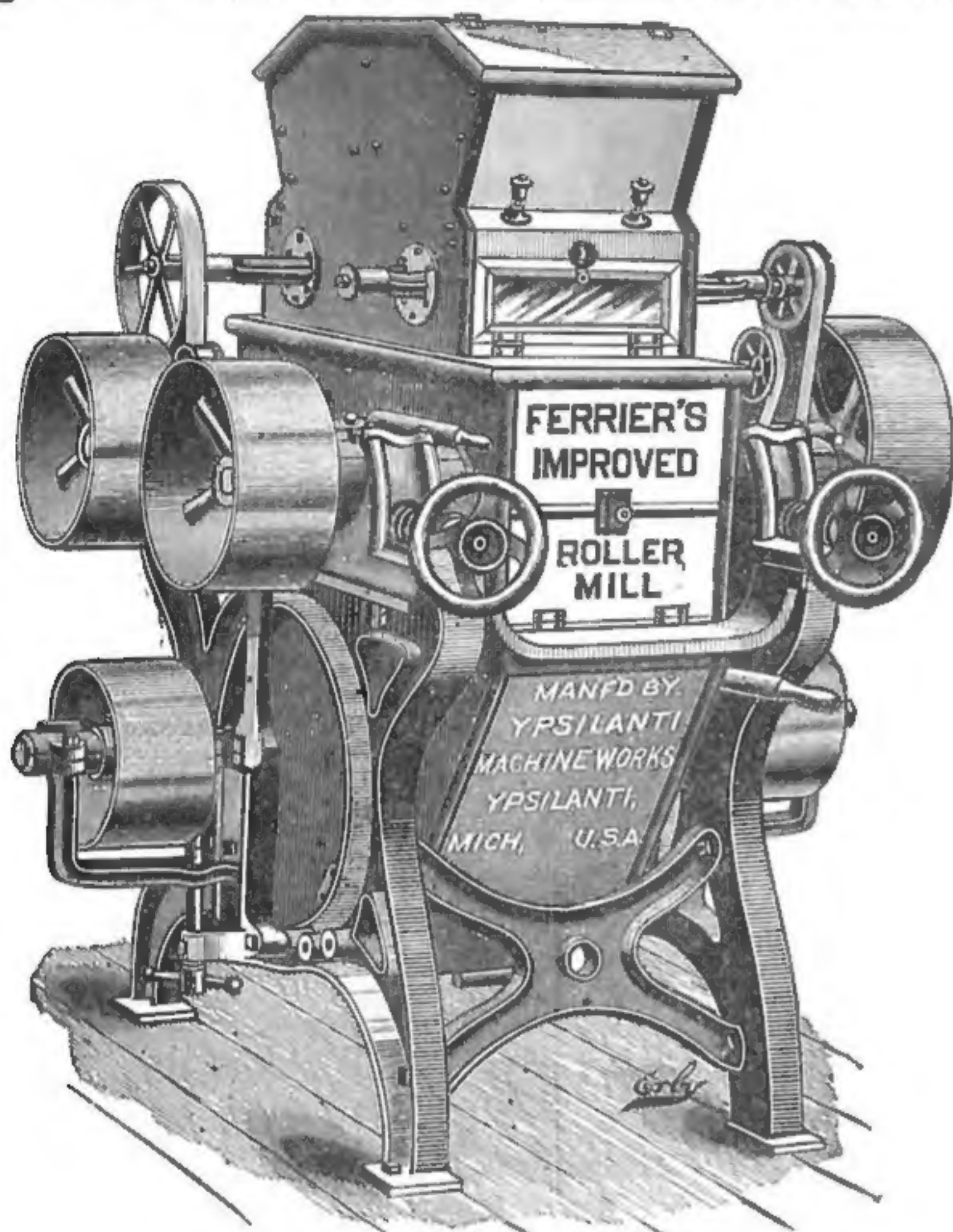
READ carefully the new advertisement of the well-known Ypsilanti Machine Works, of Ypsilanti, Michigan, which appears on another page in this issue. Millers who are looking for the most satisfactory outfits on the most reasonable terms will be interested in the announcement of this firm. Their milling machines are all high-grade. Correspond with them for their latest illustrated circulars and catalogues.

It is "business" for the independent crop-guessers to decry the government crop reports, but recent events prove that the independent, and private, and gambling and other so-called reports can not compare with the government reports for their nearness to the truth. Our advice to speculators is to depend on the Dodge reports rather than on any others. Statistician Dodge's figures have been based upon actual information, and if, in the case of the crop of 1888, they fell short of the truth, it is evident that the thing needed is more information rather than "new methods" of reporting.

WE are pleased to know that the Case Manufacturing Company, of Columbus, Ohio, whose establishment was recently burned, have so many orders on their books that they can not afford to stop. Their superior machinery, their satisfactory designs and their honorable business methods have brought them to the front rank. Think of one establishment having on hand orders for twenty complete milling outfits at once, beside scores of partial outfits and orders for single machines and sets of special machines footing up in the hundreds! In the case of this company success has been won by perfectly legitimate methods and in a perfectly natural manner.

FERRIER'S IMPROVED ROLLER MILL.

Herewith is an engraving representing Ferrier's improved roller-mill, made by the well-known Ypsilanti Machine Works, manufacturers of roller-mills, round and centrifugal reels, mill-gearing, sprocket-wheels, shafting and hangers, flour-dressing machines and general mill supplies, Ypsilanti, Michigan. A glance at the engravings will show the points of this excellent machine. The first engraving shows the mill complete, a neat, durable and efficient machine, built of the best materials and on the best designs. The other engravings give sectional views of the machine, readily understood by the practical miller. The vertical or leveling adjustment of rolls is made by the wedge as shown in Fig. 3. The cam-shaft D, Fig. 4, is journaled to rods which are adjustable by the nuts on both sides of the box as shown, giving more or less throw to the cams. The lever S is attached

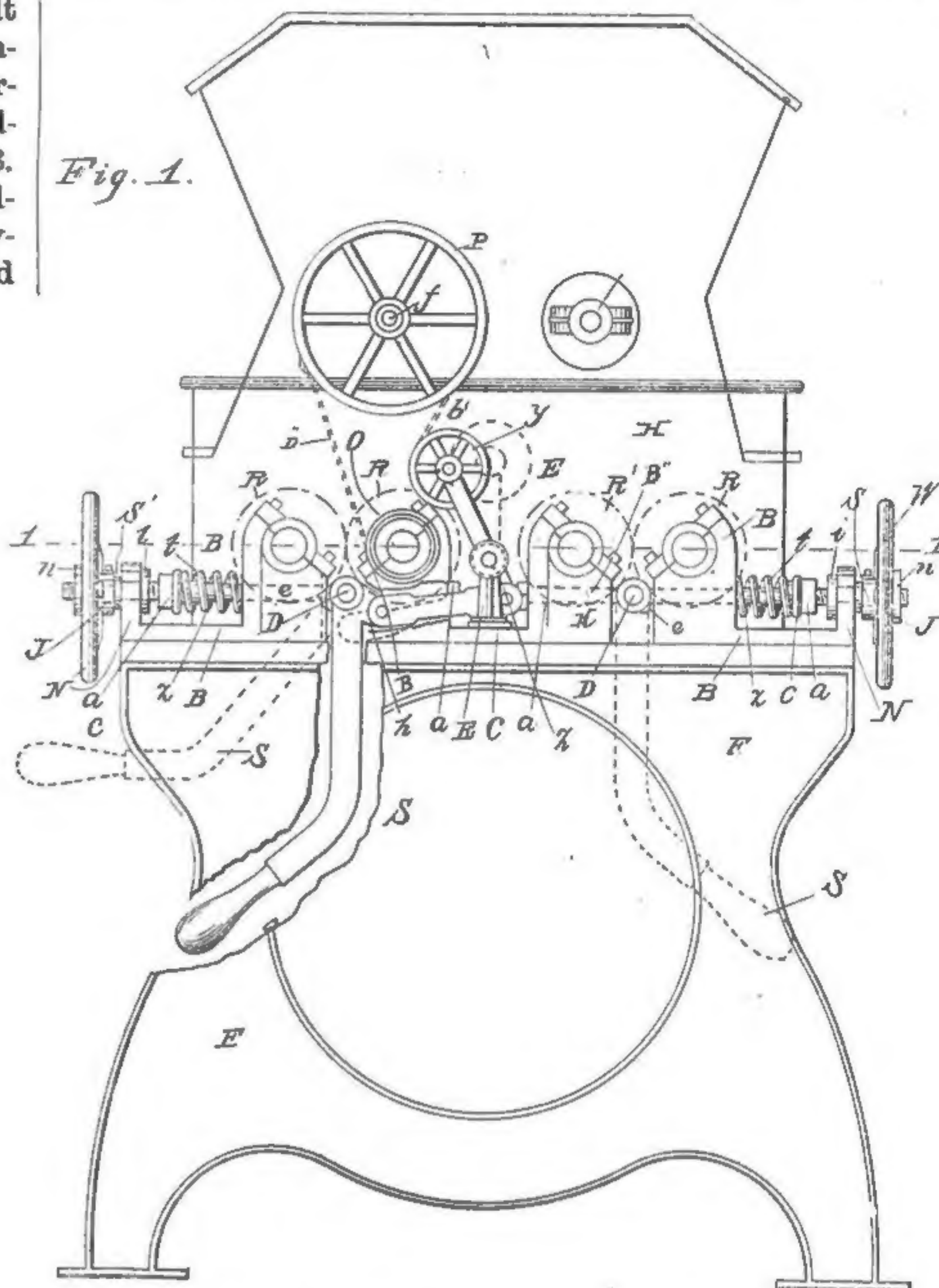


FERRIER'S IMPROVED ROLLER-MILL.

to the cam-shaft as shown in Fig. 1. The movement of the adjustable box is clearly shown in Fig. 3. N. is an upright projection of the box through which the threaded thimble with collars on the inside slides loosely; on the thimble are attached the hand-wheels, which, by revolving in one direction, allow the springs to carry the rolls together, and the reverse movement pulls the rolls apart by the collar on the threaded thimble engaging the upright projection on the box. To separate the rolls without losing the grinding adjustments raise the lever S, which is attached to the cam-shaft, and drop the lever, when the springs carry the rolls back to their grinding position. The feed-roll is stopped by moving a lever not shown and attached to arm carrying the tightener pulley as shown in Fig. 1. Address the makers for their latest priced and illustrated catalogue and for all desired information concerning this and other superior machines which they manufacture. All their wares are of a high grade, and all directly concern all the makers of flour in the country.

POINTS IN MILLING.

INQUIRY among American millers leads me to think that most of them do not consider the grinding of mixed wheats a profitable or practicable operation. Many of them aver that the reported English method of "blending" makes good milling and good, reliable flour impossible. One miller puts the case in this way: "No two wheats grown in different soils and climates will grind exactly alike. One requires



SECTIONAL VIEW OF FERRIER'S IMPROVED ROLLER-MILL.

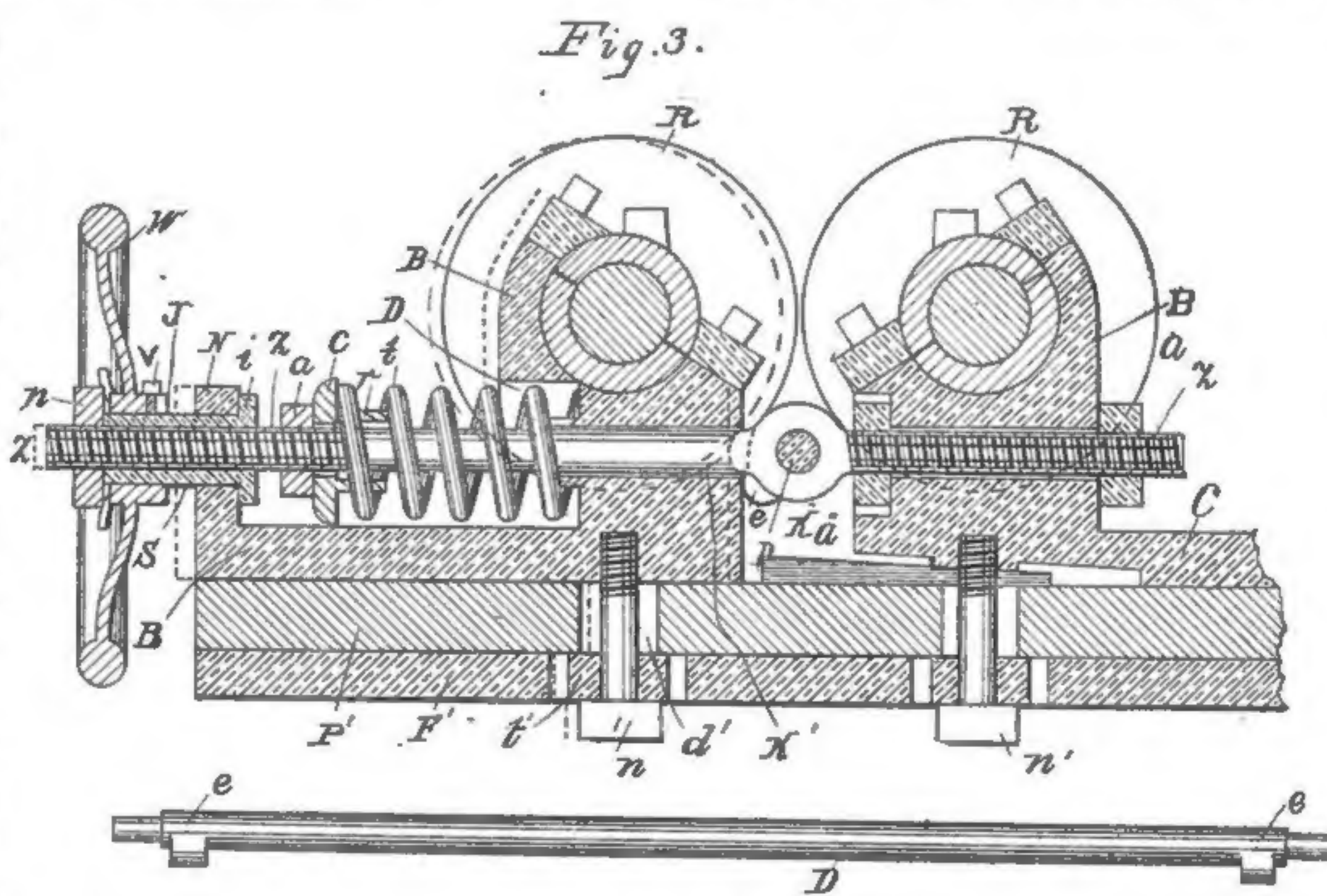


Fig. 4.

FERRIER'S ADJUSTABLE BOX.

more pressure on the rolls, and the other requires less. The bran of one is tough, that of the other is brittle. The floury part of one is firm and solid and does not dust out easily in handling, while in the other the flour is loose and dusts out easily on the most careful handling. One will be thoroughly cleaned by the cleaning-machines, while the other will be only partially cleaned by the same manipulation. Each one of these differences is important in its relation to the mechanical work of making flour. Any

beginner can see what difficulties would arise, even in cases where only two wheats are 'blended,' while the addition of a third, a fourth, a fifth or a sixth variety of grain would increase the difficulty to the extreme of impossibility."

ANSWERING the question as to chemical confusion in flour produced from "blended" wheats, another miller writes: "Mixtures of wheats, like those in vogue in British mills to-day, imply great chemical confusion in fermentation and baking. No two, no three, no four, no six kinds of wheat

can or will produce flour that will rise thoroughly, perfectly and properly in the same time. Every wheat contains peculiar qualities, certain chemical ingredients, absorbed from the soil on which it grows, and these ingredients control fermentation very largely so far as length of time and intensity are concerned. It follows that six different wheats, grown in widely separated countries and on different soils, will give a mixture whose fermenting period is wholly a matter of doubt, as each variety calls for a different length of time from that called for by each of the other five. The 'blending' ignores all this. There may be a profitable mixture of two flours, as spring and winter, in baking, but the mixture should be made in a proper way, allowing each variety its full time for ripening. In the flour from mixed wheats there is no help for the baker. He must go to work at a venture, and he can never rely on his flour. Professor Jago is right in his argument against mixed-wheat grinding and for single-wheat grinding. His name 'nondescript' accurately describes the flour made from the crazy mixtures which British millers claim to be grinding."

EVERYWHERE there is a bright prospect for wheat. The exceptions are few and far between. The bears have all the elements in their favor thus far this season, and it is to be feared that our friends the millers will find the prices of wheat as much too low for profit next fall as they were too high last fall. With wheat below a certain notch, it is likely that England will make large drafts on our surplus grain and thus reduce our market for flour.

WHO asserts that mill-building is a dead interest in the United States? On all sides I see new mills going up, old ones enlarging and remodeling to modern needs, and in every section a general movement toward the increase of capacity. As an example of what is going on, it is stated that the Case Manufacturing Company, of Columbus, Ohio, at the time of their fire recently, had on hand twenty complete outfits for roller mills. Some of these were of good size, and the average of the twenty mills, if it were only 100 barrels a day, would mean much in the aggregate output for a year. Is it over-production? Is it unwise expansion of the industry? Is it pouring capital into unremunerative enterprises? Time alone can show. Certainly the rate at which mill-building is going on seems to indicate either great confidence in the future or great ignorance of both the present and the future. If the wheat crop of this season turns out 500,000,000 bushels, all mills will find work to do.

CONTEMPORARY COMMENT.

The millers of Nashville, Tenn., have quarreled again, and they now have a war on prices of flour. During the past 30 days prices have fallen \$1.15 per hundred on patent, the American Mill Co. leading the cut, while the others follow suit in prices. President Noel and his company have withdrawn from the Southern Association and the Central Millers' Association also. We wonder how long it will take these Nashville fellows to get tired of selling flour at a loss of one dollar per hundred.—*Enterprise, Kans., "Miller and Manufacturer."*

Raising a wheat crop is an uncertainty until the wheat is in the granary. No child is more tender or subject to more ills than the wheat plant. It has to go through teething, whooping-cough, mumps, measles, scarlet fever, chicken-pox and a host of other regular dangers, besides a lot of incidentals, bumps, falls, bruises, coughs, colds and summer complaint. Any one is liable to end it, but it is liable to pass through all safely.—*St. Paul "Journal of Commerce."*

The Chicago Board will retain its membership in the National Board of Trade. The National Board is a great institution. It meets once a year, looks wise and adjourns.—*Chicago "Daily Business."*

Last year we exported breadstuffs valued at \$116,666,000, and of this great amount England received 63.51 per cent. In 1886 over 64 per cent. of England's importations of breadstuffs was supplied by the United States. When the African jungles are turned into wheat-fields, and Russia, Australia, Roumania and India produce a good crop every year and

have a large available surplus, England may be able to refuse American wheat, but we doubt it.—*Chicago "American Elevator and Grain Trade."*

A well-known company of millers in South Wales have just declared a dividend of 17½ per cent. and carried £30,000 to the reserve fund, the net profit during the year amounting to £96,000. We should like to know whether there are any mills in America or Hungary that can show as good a record.—*Liverpool, England, "Corn Trade News."*

REAL MILLING POETRY!

A PATHETIC POEM.

Down by the river side
Lived old Gray, the miller.
Down by the side of the mill stream tide
Grew a weeping willow.
Underneath the willow
There sat the miller's daughter,
Singing a song and gazing long
Into the bubbling water.

Michigan University Gong.

THE PLOT THICKENED.

She sot for days and days
In a sort of harmless craze;
She sot in that solitude
And tolu taffy chewed,
This daughter of the miller,
Underneath the willer,
And always sot with her gaze
Bent on that bubbling water,
Did Gray the miller's daughter.
Her gaze was long, bekase, sir,
She was a long-system gazer.
She simply sot, chawed, gazed, sung,
Till one day she broke a lung,
Singing louder than she'd oughter,
Did this miller's daughter.
What saw she in those water?
We give it up, Mill Bard,
Give us something not so hard.
She nothing saw but water,
Did Gray the miller's daughter.

Bang, Duluth, Minnesota.

DID IT ELECT HARRISON?

The following appeared in a Minnesota paper: "Members of the Democratic party have been using all subterfuges to account for their overwhelming defeat, and numerous are the causes alleged.

"I was talking with several of the vanquished on Fourth Street the other day, opposite a bill board, and one of the party exclaimed: 'If it had not been for the closeness of the National Committee in the expenditure of money, we would have elected our man. The Republicans advertised their man like a circus.' Several of the party remarked that no advertising was done except small announcements in the papers, and a few 'hangers' on the dead walls.

"'Hangers'? said our informant. 'What do you call that but a circus poster?' pointing to a twelve-sheet medicine poster on the bill board bearing the cut of Gen. Harrison and his grandfather.

"If the Democrats had advertised like that Cleveland would have been re-elected."

The poster referred to was one of the familiar black and white Log Cabin Sarsaparilla posters sent out by an enterprising firm manufacturing old log-cabin home-cures, under the name of Warner's Log Cabin Remedies, among others the famous Log Cabin Sarsaparilla, which is everywhere recognized as the best of all medicines for the cure of all disorders which are the results of impure blood.

The spring time of the year is the season when the system needs renovation; the long winter has caused the blood to become filled with impurities. Warner's Log Cabin Sarsaparilla will speedily restore the blood to a pure and healthy state, which insures health and happiness.

The firm putting out the medicine is the same which manufactures Warner's Safe Cure, the standard remedy for the cure of all those diseases peculiar to the kidneys as well as those which are the results of disease in those organs, and which has met with such phenomenal success for the past ten years.

NORTHWESTERN CROP PROSPECTS.

Recent reports from St. Paul, Minnesota, give the weekly crop report of General Traffic Manager Hanaford as follows: "The crop reports from our line, embracing returns from over 75 stations in Minnesota and Dakota, show everywhere a most encouraging state of affairs. Farmers are jubilant. This revulsion of feeling is the result of heavy soaking rains in many places, preceded by snow, which melted as it fell and soaked into the soil, reaching well below the grain. This rainfall has extended along our entire main lines and all our branches east of the Montana line and has fallen off and on for the last three days. The Red River Valley, north of Grand Forks to the boundary line, did not experience rainfall until to-day, when telegraphic advices show a good steady rain from Grand Forks to Pembina. All this is of incalculable benefit to the country, and never has a better feeling existed for the prospect of the crop. Sufficient moisture has been absorbed by the soil to carry the grain over several weeks, should this wet spell be followed by dry weather. The cloudy periods between the rain, unaccompanied by high winds, with a rising temperature, have resulted in the absorption of the moisture with very little evaporation. It would be superfluous to give this report in detail on various divisions, as the above condition would apply to any and all points in the wheat-growing districts along the eastern divisions of the Northern Pacific Roads. The 1886 crop yielded approximately 90,000,000 bushels in Minnesota and Dakota; the 1887 crop 95,000,000 bushels, and of the 1888 crop 70,000,000 bushels are likely to be the final outcome. In each case the crop was underestimated by Government and private authorities. There is now an increase in acreage of some 5 to 10 per cent. above last year, and from 10 to 15 per cent. above either of the others mentioned, when 90,000,000 to 95,000,000 bushels were produced. Two years ago, when 95,000,000 bushels comprised the yield, there were heavy winds that uncovered the wheat in the north, and in places the yield was reduced by it. The trouble has been worse this year, but owing to the unusually early seeding, farmers have been able to repair the damage without being seriously compromised by lateness. A great deal of unsound wheat went in as seed, but as the season was favorable there is no apparent general harm from it. There are many chances for damage yet, but none is in sight. The rain of last week covered the whole country, though in some places not enough fell. The rain of this week fell heaviest where it was the lightest last week, and in the general condition of soil now little improvement could be made anywhere, and no insects worth mentioning are in sight. Spring wheat in the adjoining States is also promising. There has been in Iowa, in Nebraska and in Wisconsin some complaint of want of rain, but with the most of such wants satisfied during the last few days, there is little improvement to be desired now. Chinch-bugs were reported in Southern Minnesota before the storms, but nothing has been seen of them since."

THE WHEAT GRAIN ANALYZED.

Underneath the epidermis is the dermis or covering of the germ, which, although of much slenderer texture than the covering of the berry, is composed of two layers. The upper layer consists of colorless and flattened longitudinal cells; the cells of the lower layer are of identical construction, but are of a yellow or yellow-brown hue. The cells of both layers form a crosswork over the berry, meeting at a point which is almost a right angle. Both layers are of extreme tenuity, so much so that when examined in longitudinal sections, as in flakes of bran, they appear to be one and the same layer. The existence of two layers is only revealed by a cross section, the upper layer being termed the "transparent layer," and the lower the "coloring layer." The peculiar hue of the wheat berry is caused by the coloring layer; in white wheat the coloring matter is a pale yellow, in red wheat it is brown, and in rye a yellowish red brown. Now and then a peculiar kind of lengthened bulbous cell will be found in the bran. These cells, which are frequently some-

what crooked and knotted at the ends, like a knuckle-bone, are generally found adhering to the dermis, although, strictly speaking, they form no part of it. They really form part of the epidermis and are the last vestiges of the inner portion of that membrane. The outer layer is formed of the longitudinal cells mentioned. These cells, which may be termed reticulated cells, are more commonly found in rye flour than in wheat flour, but they are at the same time so eccentric in their occurrence and form that they are incapable of furnishing any point of distinction between these two kinds of flour.

The substances inside the coloring layer form the body of the berry, being divided between the constituents of the flour and the embryo. The greater part are included in the constituents of the flour. Among these is found, close under the coloring layer, a thin semi-transparent layer which swells up in water. A powerful lens will show this layer to consist of cells, and the history of the development of the plant teaches that this layer is the remains of epispem which, at the time of blooming, swells to considerable proportions and in which the entire berry has its origin. Immediately beneath the transparent layer lie the gluten cells, which are to be found everywhere except on the under side of the berry just by the germ. The gluten cells form the outermost cells of the constituents of the flour. They are shaped somewhat after the form of a barrel and, lying close together in stoutly-built radial cells, help to make the berry more compact. Longitudinal and cross sections of the gluten cells taken on a flat surface, as is the case with bran, show them to be rectangular and describing nearly a perfect square. They have in reality from four to six sides and are joined one to the other like paving-stones. In wheat the gluten cells are throughout larger than in rye, and especially is this difference noticeable when maximum measurements of the two varieties are made. In the gluten cells is found a nitrogenous substance formed of small granules. This is the gluten, which is surrounded by a yellowish fatty substance and has usually a yellow hue. The single granules are termed gluten granules or protein granules. In wheat these granules are larger than in rye, but they are very small at the smallest, 0.003 mm., in rye 0.0015 to 0.002 mm. Franz von Hoehnel and his disciple, Victor Berthold, have proposed to take the size of the gluten granules into account in distinguishing between wheat and rye. With regard to this it must be remarked that a very powerful microscope would be required to detect such fine differences of size with any certainty; again, it will happen that in rye several gluten granules will coalesce and form a body. The size of the larger starch granules varies widely, even in the same berry. As regards the maximum size, each of the mentioned grains has its own standard.

In wheat the large granules reach a maximum of 0.028 to 0.039 mm., rarely rising to 0.040.

In rye the large granules reach a maximum of 0.040 to 0.052 mm.

In barley " " " " " 0.021 to 0.026 mm.

It will be seen that rye has the largest starch granules, and, generally speaking, this peculiarity affords a means of detecting the addition of rye flour to wheat flour. We may note also that in rye the interior of the starch granules will frequently exhibit star-shaped rents. These rifts are far from being of general occurrence, and isolated cases are also noticeable in the starch granules of wheat. The origin of these rifts is invariably to be found in a strain between the different concentric layers of which a starch granule is composed. In the case of the starch granules of wheat these layers are made out with great difficulty, even under a very high power, but they are easily perceived in potato starch. As soon as the wheat berry has germinated or come to maturity, and the starch granules have been converted into sugar for the nourishment of the germ, the concentric layers even of wheat become very plain. It will be seen at the same time that the starch granules are full of rifts, rents and clefts, and this affords a means of determining whether a flour has been made from a sound or diseased wheat.

The embryo, or germ, has two distinct parts, the bud at the summit, or *plumula*, which usually puts forth leaves and

buds, and the rootlet, or *radicula*. The latter has a parent and branch roots. A cross section of the germ shows, in the case of wheat, three rootlets at the most, four in rye, and from five to seven in barley and oats. It has been shown that the germ is placed at the lower extremity of the berry outside, but closely adhering to the endosperm, as the farinaceous constituents of the berry are termed by botanists. The germ is furnished with a special organ for the absorption of the starchy and nitrogenous matters provided by the endosperm. This organ consists of the shield (*scutellum*), a convex wall, shaped after the fashion of a shield, which forms the boundary between the germ and the endosperm. The shield is furnished on its convex side, where it joins the endosperm, with fine, straight tubes, having somewhat the appearance of a row of needles, through which the germ absorbs the yet fluid starch. These tubes may be termed "suction cells." The rest of the germ is composed of very minute cells, which are distinguished by their slender walls and by the regularity of their disposition. These cells contain nitrogenous and fatty matters, but as the germ is carefully eliminated in the reduction of the grain, traces of its components are but rarely to be found in flour. The starch granules are the basis of flour; then come the gluten granules, which in size are about equal to the smaller starch granules. Now and again are found the thick-walled gluten cells, as well as the starch cells with their thinner walls, enclosing starch granules, and not infrequently several cells will form one mass and will be found full of starch. Again there may often be found portions of the epidermis and of the beard, or at least with minute fragments of the beard.

UNIFORMITY IN FLOUR DESIRABLE.

Commenting on this important point, our esteemed English cotemporary, the London "Miller," says: The other day we were forcibly reminded of how precious is uniformity in flour to the baker by the recital of the troubles of a worthy friend of ours, who is one of the most accomplished masters of the baking art to be found in the United Kingdom. It is well known that "blending" is one of the most delicate operations of the bakehouse, and our friend was of opinion that the master baker who expects careful blending from his men is laying up for himself bitter disappointment. Judging from his own experience, he thinks it hopeless to ask the present operative baker to mix such and such brands. To use his own words: "They take just what is 'nearest the trough' to save themselves trouble." This is no doubt very reprehensible, but it is to be feared that until our journey-men bakers have been educated up to a higher level than they have yet reached they will continue to mix flour in the rough and ready manner described. Master employers must work with the instruments that are to their hands, and of course, if operatives, as a class, have not yet learned sufficient of the technics of their craft to appreciate the different behavior of different flours, it will be idle for masters to expect that their men will treat their instructions regarding blends as anything else than "fads," which may be quietly set aside as soon as the "governor" is "out of the way." The prospect is not cheerful for those advanced bakers who have clamored for single milled wheats and who have made it a grievance that millers did not leave the whole work of mixing to the baker; but then facts are stubborn things and are always best looked in the face. As a matter of fact a perfectly even brand of flour is an idle dream which can rarely be exactly realized. With varying climatic conditions, with springs now mild and now cold, with summers now wet and now scorching, it is absolutely certain that the nature of the grain must vary. And as is the grain, so will be the flour.

It is true that millers who can supply themselves from a belt of wheat such as extends across a considerable section of Northwestern America have a certain advantage over less favorably situated competitors. But the superb wheat of the Northwest is equally subjected to meteorological influences and very sensible variations will be found between Minneapolis flour of one year and that of another year. Of course it is the aim of every good miller to keep up his flour to a certain standard, and merchant mills with a large circle

of custom are forced now and again to make heavy sacrifices when the supply of good sound grain runs short. Some years ago a bad harvest occurred in Hungary, and the great merchant mills were eagerly bidding against each other. It was in this year that one of the Budapest mills disbursed a sum in excess of its normal raw material expenditure which was equivalent to \$50,000. In other words, it sacrificed a large part of its profits for the year in order to maintain the reputation of its products. The miller has to bear in mind that a very slight variation in the quality of his grain will make a sensible difference in the resultant flour. One crop of South Russian wheat may look very like another crop, and yet the two flours may be of widely diverging types. The British miller, who has the whole world as his granary, wherein lies the real source of his strength and advantage, has peculiar need for exercising vigilance over his stock of grain, and probably he requires as much skill to bring him safely through the operation of milling the different wheats in his bins as can well be demanded of any miller in the universe. His greatest safety will doubtless lie in a constant and tireless testing of the flour milled from every wheat that enters his mill. It is understood that the Budapest flour-mills are amply provided with apparatus for testing their products, and that these appliances are in incessant use.

MILLING PATENT LITIGATION.

In the suit of the Consolidated Roller Mill Company against Wm. A. Coombs, of Coldwater, Mich., which was tried before United States Judge Brown at Detroit, a decision was reached on the 20th of May, and that decision will be very interesting to millers. Judge Brown declared invalid the Dowling patent on a device for controlling the flow of material going to the rolls in a roller-mill, and the D. W. Marmon patent on a device for simultaneously adjusting both ends of a counter-shaft in order to tighten or loosen the belts driving the alternate rolls on each side of a four-roller mill, both on the ground of lack of novelty in the devices. Judge Brown at the same time declared valid the Gray patent on a device for adjustment, horizontal and vertical, of the movable roller of a mill, and Commissioner Harsha was instructed to take evidence and compute damages. The case was defended by a syndicate of five manufacturers. The preparation of the case on both sides is said to have cost \$40,000. The decisions are important, and it is probable that no appeal will be taken in the Dowling and Marmon cases. In the Gray case no announcement of intention is made by the defendants, but it is doubtful that an appeal will be made in that case.

SPECIAL NOTICES.

LIBERAL OFFER.

With a view of increasing our subscription list, we will send a copy of R. J. Abernathy's new book, "The True Short System" (Price \$2.00) and "The Milling World" for one year at the very low price of Two Dollars. Renewal will be treated same way. This offer will only continue for a limited time. Now is your chance. Send in your subscriptions at once.

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TO HARDEN METALS.—A powder for hardening metals is thus described in an English patent specification: After extracting the color from the cochineal insect, 100 parts of the residue are mixed with 202½ parts of phosphoric acid and sufficient nitrogenous organic substance to give 32½ parts of nitrogen; the mixture is then evaporated and dried, and 50 parts of soot are added. Sheet-iron may be hardened by heating in contact with this powder in hermetically closed boxes.

GENERAL NOTES.

It has been found in experiments at Leipsic that skin grafted from a white to a colored person becomes gradually black, and that black skin grafted upon a white person in time turns white.

MILLING PATENTS.

Among the patents granted May 7, 1889, are the following: Guilford D. Rowell, Appleton, Wis., No. 402,618, a feed mill.

Wm. E. Gorton, Moline, Ill., No. 402,733, a bolting-reel, and No. 402,734, a bolting-reel.

Le Roy C. Tryon, Marseilles, Ill., No. 402,872, a grain-weighing machine.

Henry Wilhelm, Oneida Mills, O., No. 403,020, a grain-scourer.

Among those granted May 14, 1889, are the following:

Henry S. Brewington, Baltimore, Md., No. 403,087, a household sifter.

Geo. S. Burnap, Marietta, Ga., No. 403,088, a bolting-cloth cleaner.

John Henry, Ardoch, Dak., No. 403,189, an automatic grain-weigher.

Geo. Raymond and Albert Raymond, Chicago, Ill., No. 404,215, an attrition-mill.

Orville M. Morse, Jackson, Mich., Nos. 403,362 and 403,363, a dust-collector.

Heinrich Seck, Dresden, Saxony, Germany, No. 403,389, a grain-scourer.

Archibald Stewart, Keota, Kans., No. 403,396, a grain-meter.

Lewis Borland, San Francisco, Cal., Nos. 403,411 and 403,412, a grain-drier.

REPORTS from Bombay state that sellers of the new crop of wheat do not seem disposed to meet buyers in the face of the almost certain prospect of a poor yield of wheat everywhere, except in the Punjab and Southern Mahratta country. The light monsoon rains, their early cessation and the sub-

sequent light winter rains have considerably curtailed the greater portion of this Presidency, the Berars and Central Provinces.

THE MILWAUKEE CONVENTION.

Following is the official announcement of the programme of the convention of the Millers' National Association, to be held in Milwaukee, Wisconsin, in June, sent out by Secretary S. H. Seamans, of Milwaukee, under date of May 13:

The annual convention of the Millers' National Association will be held at Milwaukee, Wis., on the 11th, 12th and 13th of June next, with head-quarters at the Plankinton House. Separate meeting places will be provided to the extent required for spring and winter wheat millers, and it is desired that all sectional and local organizations, as also individual millers who appreciate the advantage of association, attend and by counsel and presence in numbers do their fair share towards improving the milling business. The usual reduction in railroad fares will be arranged, and three or four days in the beautiful and hospitable city of Milwaukee, during the most delightful season named, can be pleasantly as well as profitably employed. The executive committee will meet on Monday, June 10, at the Plankinton House. The following have been suggested as appropriate subjects for consideration:

1. Organization to include as National:
 - (a) The spring-wheat mills organizations.
 - (b) The winter-wheat mills organizations.
 - (c) Foreign and domestic crop information exclusively for members.
 - (d) Delegation to international congress of millers.
 - (e) Reform of export bill of lading.
 - (f) Order bill of lading.
 - (g) Sales only for cash.
 - (h) All flour to bear maker's name and location.
 - (i) Form of domestic sale contract.
 - (j) Methods of sale and rates of commission or brokerage.
 - (k) Reports on standing and conduct of buyers and brokers.
 - (l) Wheat inspection and elevator customs.
 - (m) Uniform weights of sack packages.
2. Limiting production.
3. Establishing from time to time minimum prices.
4. Systematic canvass to induce millers to join respective associations.

If the result of intelligent discussion on these and other matters which may be presented take the shape of agreements binding individuals, rather than as heretofore mere expressions by resolution, the effect of our meeting can not fail to be beneficial to the milling business.

C. H. SEYBT, Prest.

S. H. SEAMANS, Sec'y.

ALEX. H. SMITH, Chairman Ex. Com.

R. A. GUNN, M. D., Dean and Professor of Surgery, of the United States Medical College, editor of Medical Tribune, author of "Gunn's New and Improved Hand-book of Hygiene and Domestic Medicine," speaking with reference to Warner's Safe Cure, said over his own signature: "I prescribed it in full doses in both acute and chronic Bright's disease, with the most satisfactory results. * * * I am willing to acknowledge and commend thus frankly the value of Warner's Safe Cure." If you are gradually losing your strength, have extreme pallor of face, puffiness under the eyes, persistent swelling of the joints, abdomen and legs, unaccountable sharp pain in the heart, shortness of breath, begin taking Warner's Safe Cure without delay.

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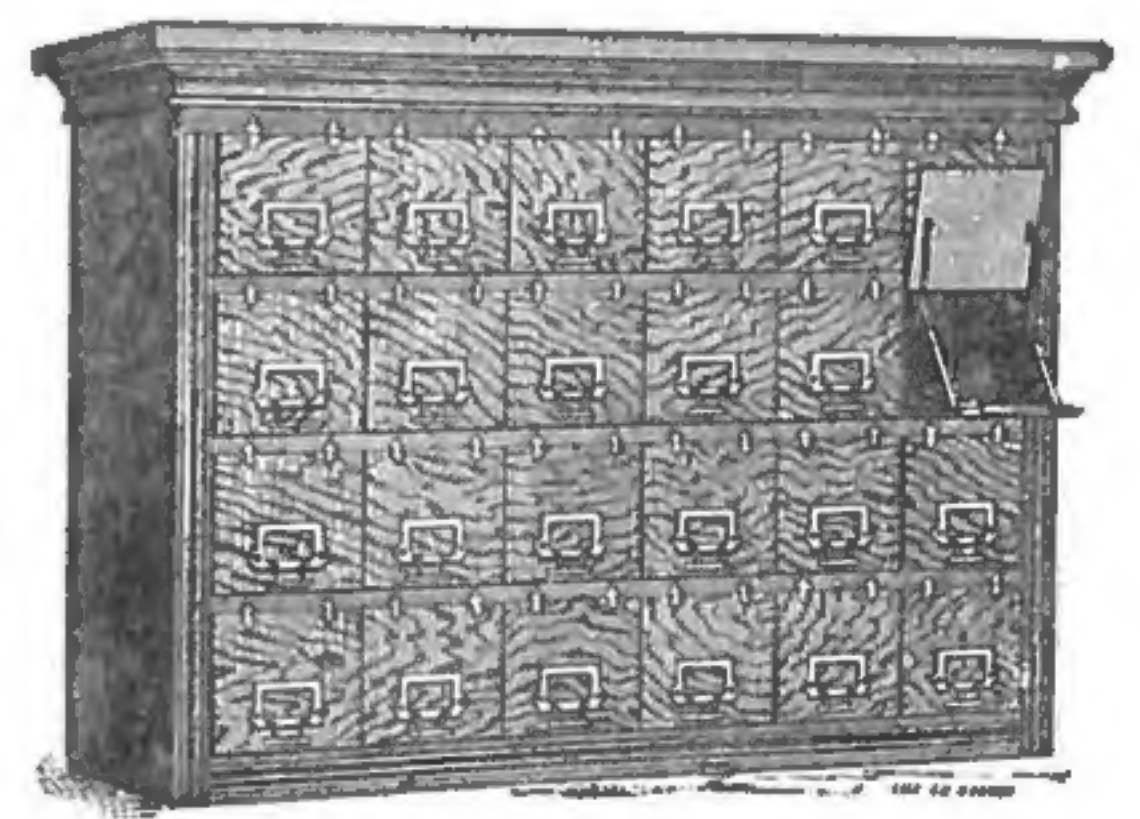
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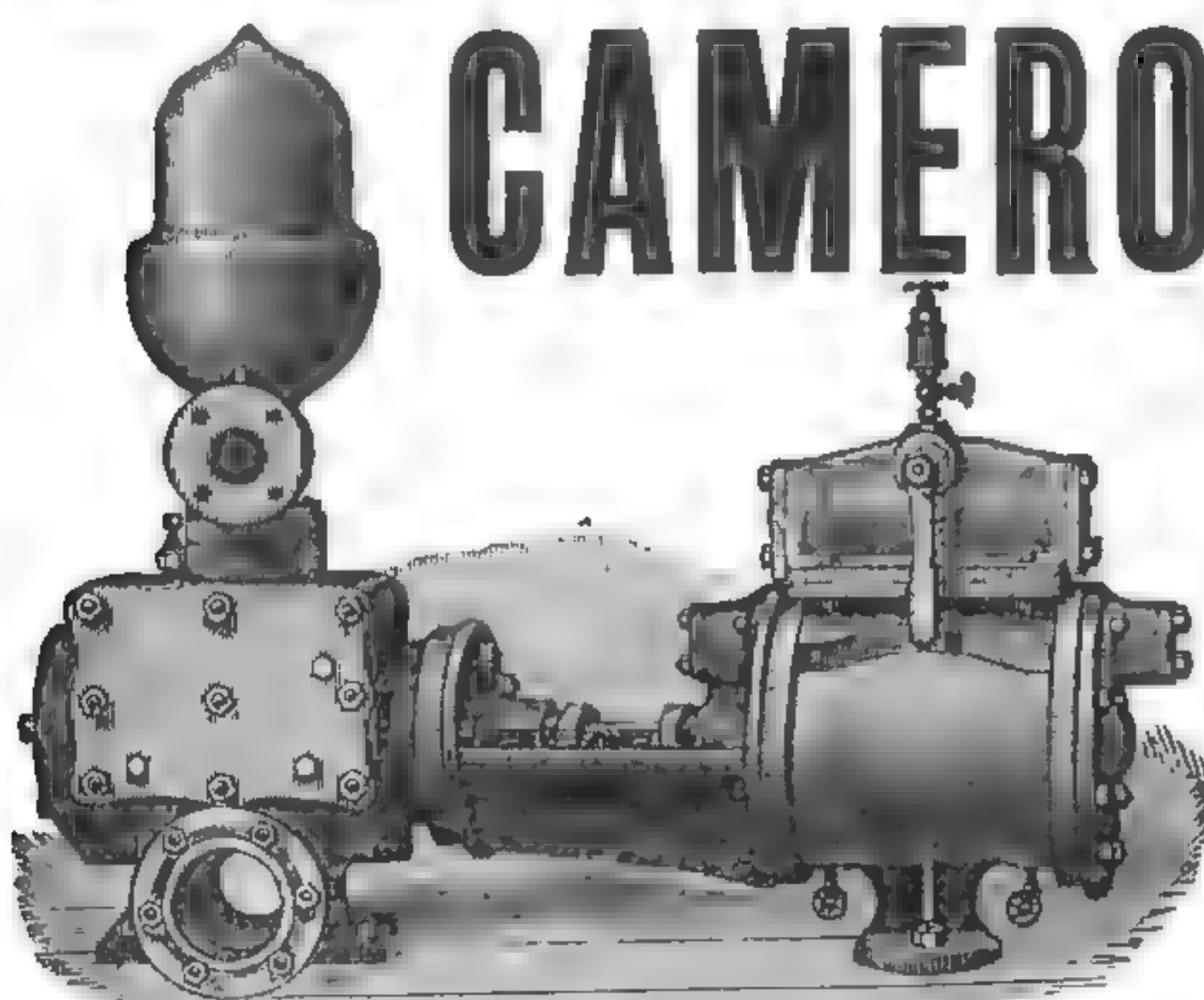
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St. Louis,	302, 304 Washington Av.	
Kansas City,	312 Union Avenue,	
Denver,	1330 Seventeenth St.	
Omaha,	1619 Capitol Avenue, F. C. Ayer.	Geo. M. Dilley & Sons.
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Salt Lake City,	259 S. Main St.	
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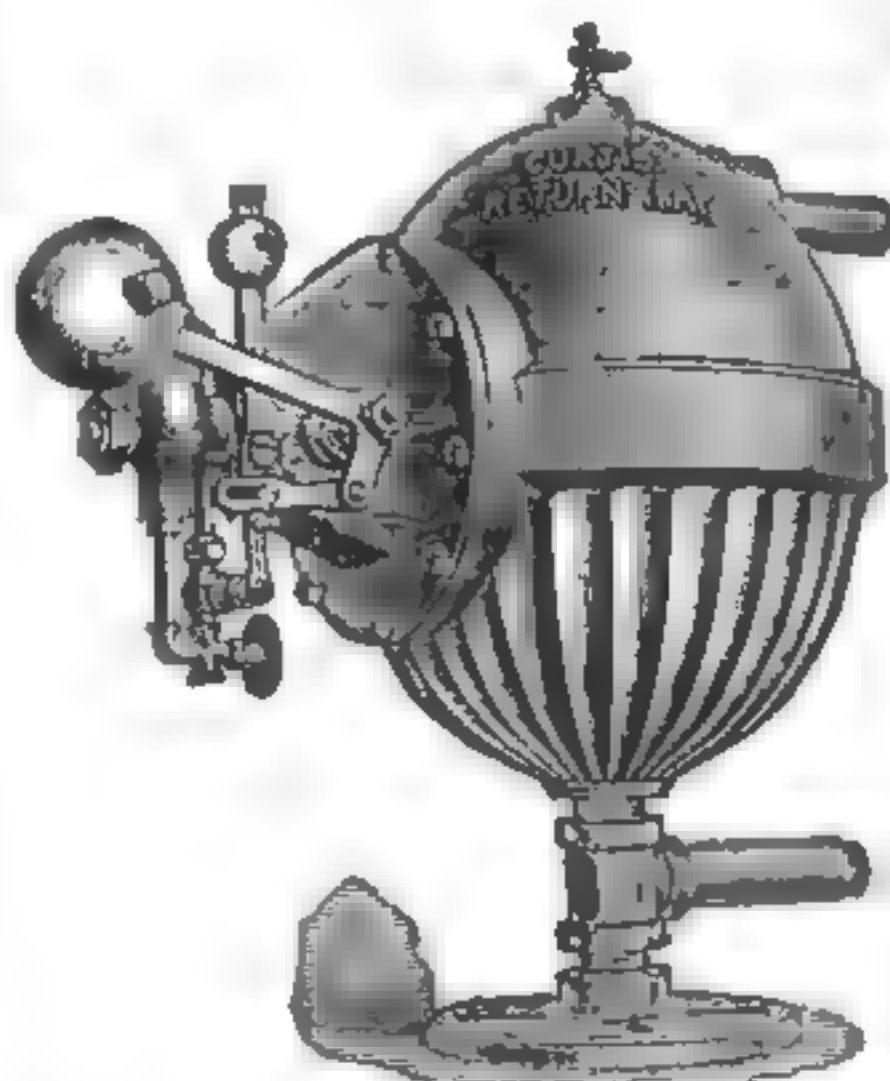
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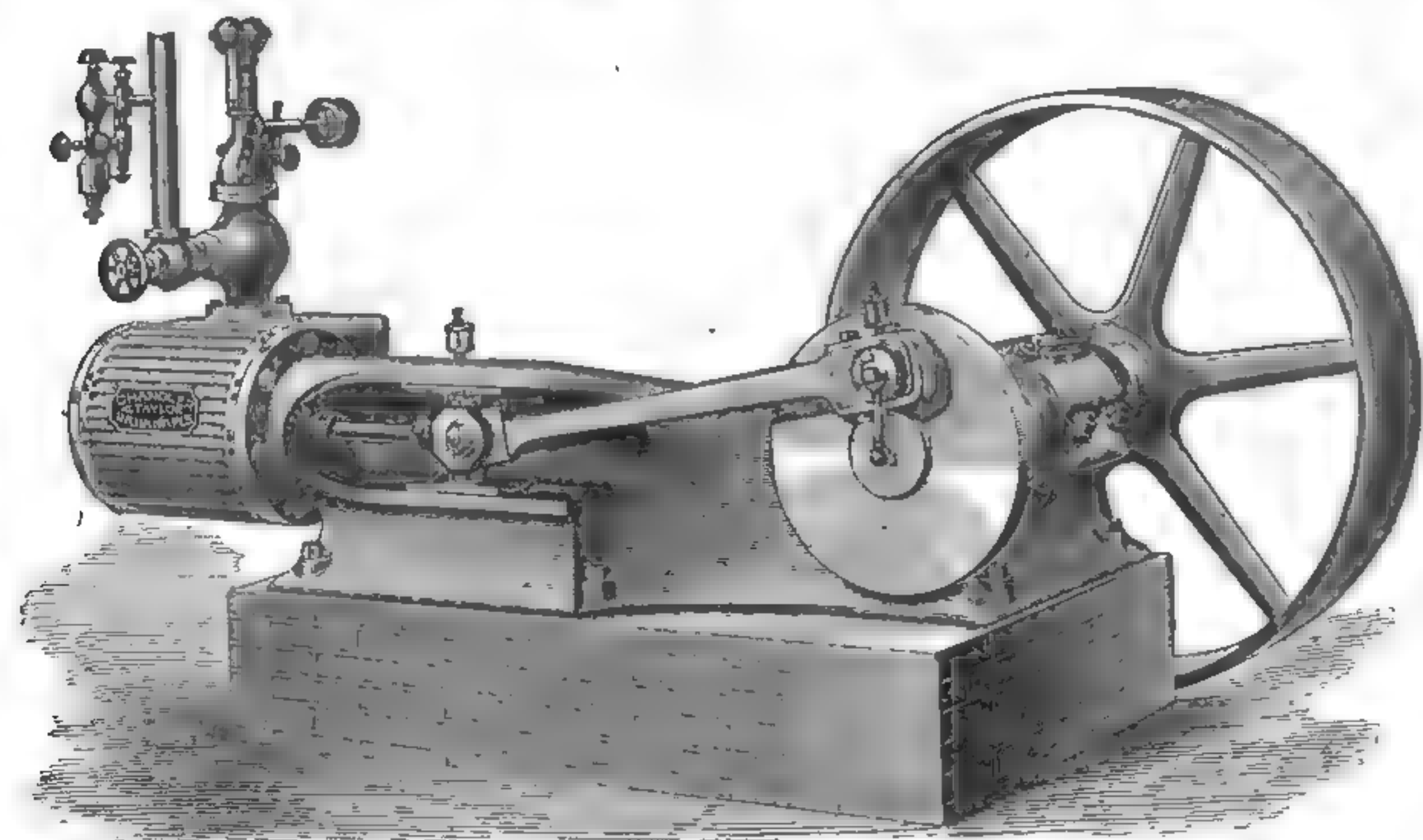
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NOTES & NEWS

Hephzibah, Ga., men start a grist-mill.
 Harney Bros., miller, Hamilton, Mich., dissolved.
 A. Ross, New Cumberland, Pa., builds a roller mill.
 J. P. Callaway's grist-mill, Leesburgh, Ga., burned.
 Powell & Lamburn, millers, Indianola, Neb., sold out.
 Myers Bros., Clarksville, build a 100-barrel roller mill.
 Good & Allen, Sparta, Tenn., build a 75-barrel flour-mill.
 I. W. Thornton, Louina, Ala., wants corn-meal machinery.
 W. J. Walker, Marshallville, Ga., wants feed-mill machinery.
 W. S. Byers & Co., millers, Pendleton, Ore., now W. S. Byers.
 The Excelsior Flour Mills, Clay City, Ind., burned; loss \$10,000.
 Dorman Bros.' grist-mill, Prairie Grove, Ark., burned; loss \$8,000.
 H. Lineberger's elevator, Stanford, Ill., burned; loss \$10,500; insurance \$5,200.

Stephens Bros., Tennille, Ga., will rebuild their burned grist-mill and want machinery.

Edward Sanderson, one of the wealthiest millers of the Northwest, died at Milwaukee, Wis., May 20.

T. J. Elam, Murfreesboro, Tenn., wants machinery to complete the outfit of his new 75-barrel flour-mill.

The Porter Mfg. Co., Cypress, Fla., build a grist-mill at a new town near Cypress: they want machinery.

Corbett & Norrish, milling and mechanical engineers, Washington, D. C., are succeeded by Edward Corbett.

The Farmers' Alliance, Black Jack Grove, Tex., have bought the Brown mill and are putting in new flouring-machines.

The North Texas Mill & Elevator Co., McKinney, Tex., are building a 150,000-bushel elevator and a 300-barrel corn-meal mill.

Manitoba has sown about 636,000 acres to wheat and 357,000 acres to other grains. If Manitoba really averages 30 bushels of wheat to the acre, her crop for 1889 ought to yield nearly 20,000,000 bushels. A year ago the boomers claimed that the province would yield 20,000,000 bushels. But it did not.

The Eagle Mills Co., Crosswicks, N. J., have remodeled their mill, using the Dawson rolls, furnished by the Dawson Roll Works, of Harrisburg, Pa. The capacity is 100 barrels. This is one of the finest working mills in New Jersey. Mr. John Low is the head miller, and under his skilled management the Eagle Mill can not be beaten for good yields and good cleaning up.

The Avery Stamping Co., Cleveland, O., writing under date of May 20, say: "Owing to the large extension of our business in the South, we have thought it advisable for the best interests of our customers and ourselves to establish a special agency for the South, for our different lines of goods, in the Neal Building, Baltimore, Md., with Mr. Alfred Ely as manager. Inquiries for price and orders will receive prompt attention, and we hope to be favored through this office with at least a portion of your business."

Chicago *Daily Business* of May 7 gives the following "Scrap of Ancient History and its Application:" When Bradstreet's commercial agency was established, suspicion was aroused that it was pirating from R. G. Dun & Co's publications and reports of rating. R. G. Dun & Co. accordingly laid a trap for its new rival and issued an edition of reports in which the rating was given of several fictitious persons, who were set down as living in a town that had no existence except in imagination. Bradstreet's fell into the trap (the soup) and published the matter, giving the names, addresses and rating as they appeared in the R. G. Dun & Co.'s publication. An expose followed, and the "Bradstreet's" was years living it down. This lesson seems to have been lost on "Bradstreet's" journal, which persists in being a sham and glorying in the shame of exposure with all the

brazen effrontery of a hopeless wanton. In its last issue it devotes nearly a page to a reply to a criticism of its loose and flimsy methods that appeared in *Daily Business*. It will have to get out a special number in explanation of its inconsistencies and false pretenses before *Daily Business* concludes its crusade. *Daily Business* will continue to puncture the pompous statistical windbag as occasion demands. "Bradstreet's" pretensions and perversions of truth would be ridiculous were it not for the fact that its so-called estimates are accepted in some quarters for what they pretend to be—facts. In this way they become positively misleading, and, so far as it is possible for them to be, harmful.

BOOKS AND PAMPHLETS.

THE MILLING WORLD acknowledges the receipt of an invitation to participate in the twelfth annual excursion of the millers and flour merchants of St. Louis, Mo.

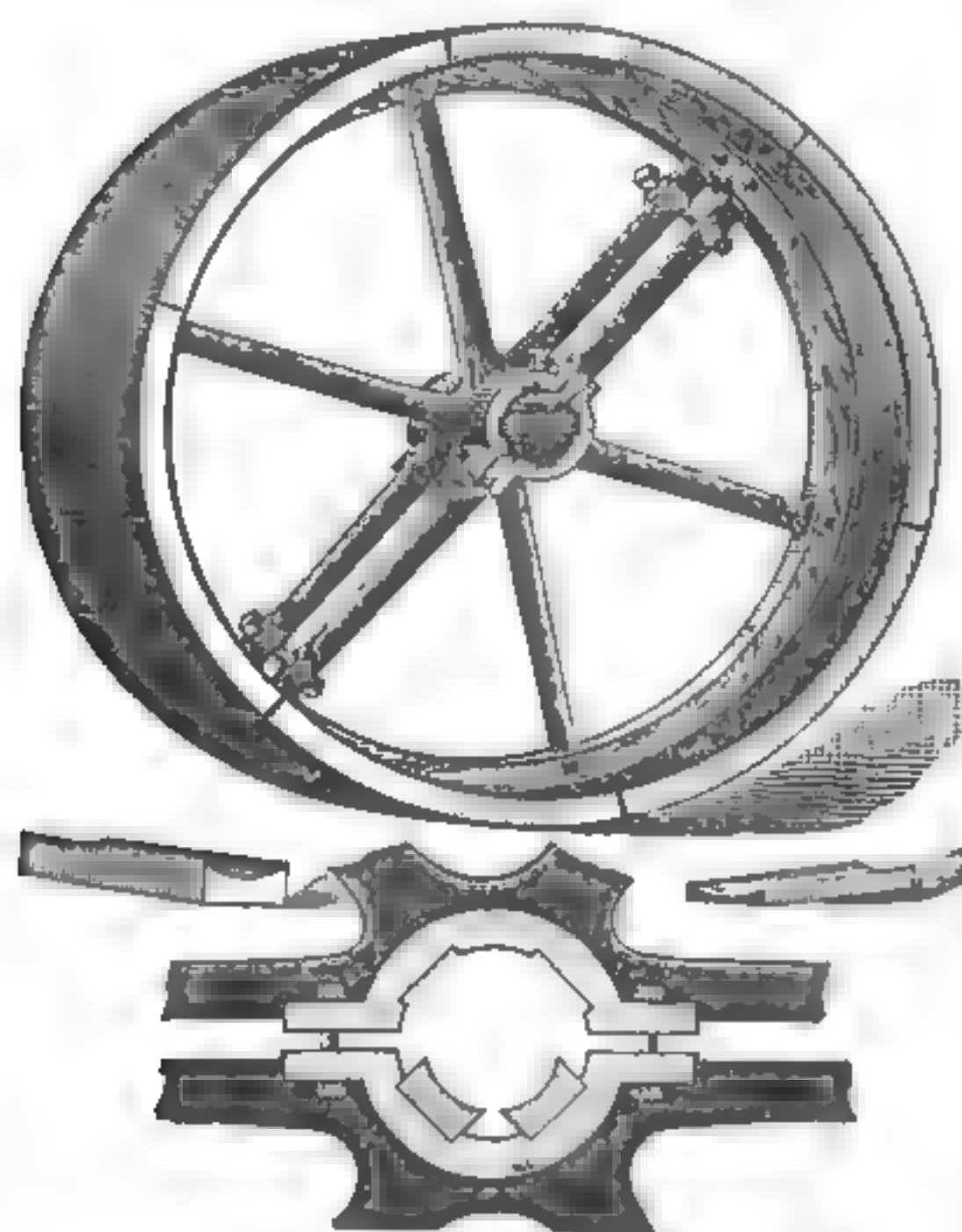
Our esteemed French cotemporary, *La Meunerie Francaise*, has the thanks of THE MILLING WORLD for a copy of the annual of that excellent journal for 1889. The volume contains over 600 pages and is full from beginning to end of interesting things connected with French milling interests. It contains a portrait of M. A. Dubray, president of the National Association of French Millers, a calendar, lists of directors, active and honorary members of the association, and a large quantity of valuable information concerning the milling industry of France.

Good Housekeeping for May 25, No. 106, offers two more of its famous prize puzzles, one of which, a "word-building contest," is something entirely new in its conception and will doubtless prove highly interesting to the contestants. The other is a remarkably well-constructed series of versified lines in which are concealed in cryptogram the names of 50 of "Our Unforgotten Heroes," men who lost their lives at prominent battles in the war of the Rebellion. These puzzles will maintain the reputation of the "Quiet Hours" department of *Good Housekeeping* as being an excellent source of instruction as well as amusement.

The June number of *Scribner's Magazine* is a rich one. The frontispiece is a "Wheat-field and Pasture Stretch in Sight," by E. Kingsley. C. F. Brackett furnishes an illustrated article on "Electricity in the Service of Man." Margaret Crosby has a poem, "From Sappho to Phaon." Henry Drummond writes on "Slavery in Africa." A. Foster Higgins presents an illustrated article on "Striped Bass Fishing," that will stir the sentiments of every angler who is so fortunate as to read it. Grace H. Peirce has a story, "Monsieur Nasson." W. A. Lime writes instructively on "Building and Loan Associations." A. F. Jacassy writes of "Castro-giovanni." Eugene Schuyler continues his series on "Count Leo Tolstoy Twenty Years Ago." The serial installments, the poetry and the miscellanies are all good. Address Chas. Scribner's Sons, New York, N. Y.

The June number of *Godey's Lady's Book* is an excellent number. Two frontispiece illustrations, "Purity" and "To the Golden Sands," are well rendered. A two-page piece of music, "Golden Love," will find many admirers in this the month of marriages. Among the literary pages is an illustrated story entitled "Thalia," by Emily Lennox. "A Model American Girl," by David Lowry, opens well and promises some good descriptions of Washington society for the future. "A Later Day Lochinvar," by Ada Marie Peck, is a story with a moral. "John's Jealous Wife," by Eugene Hall, who, although a new contributor to *Godey's*, is an author of much merit in the literary world. "A Woman's Way," by Elsie Snow, grows more exciting with each number. Numerous short stories and poems, with fashion notes and work articles, complete a creditable number to finish the 118th volume of the magazine. Published at Philadelphia, Pa.

WARNER'S SAFE CURE removes defective vision or sight. Why? Because it gets rid of the poisonous kidney acid circulating in the blood. Impaired vision is caused by advanced kidney disease, another name for Bright's disease, which "has no symptoms of its own." Warner's Safe Cure removes the cause, when normal vision returns.



BIRD & CRANE MFG. CO., KALAMAZOO, MICH.

MANUFACTURERS OF PATENT

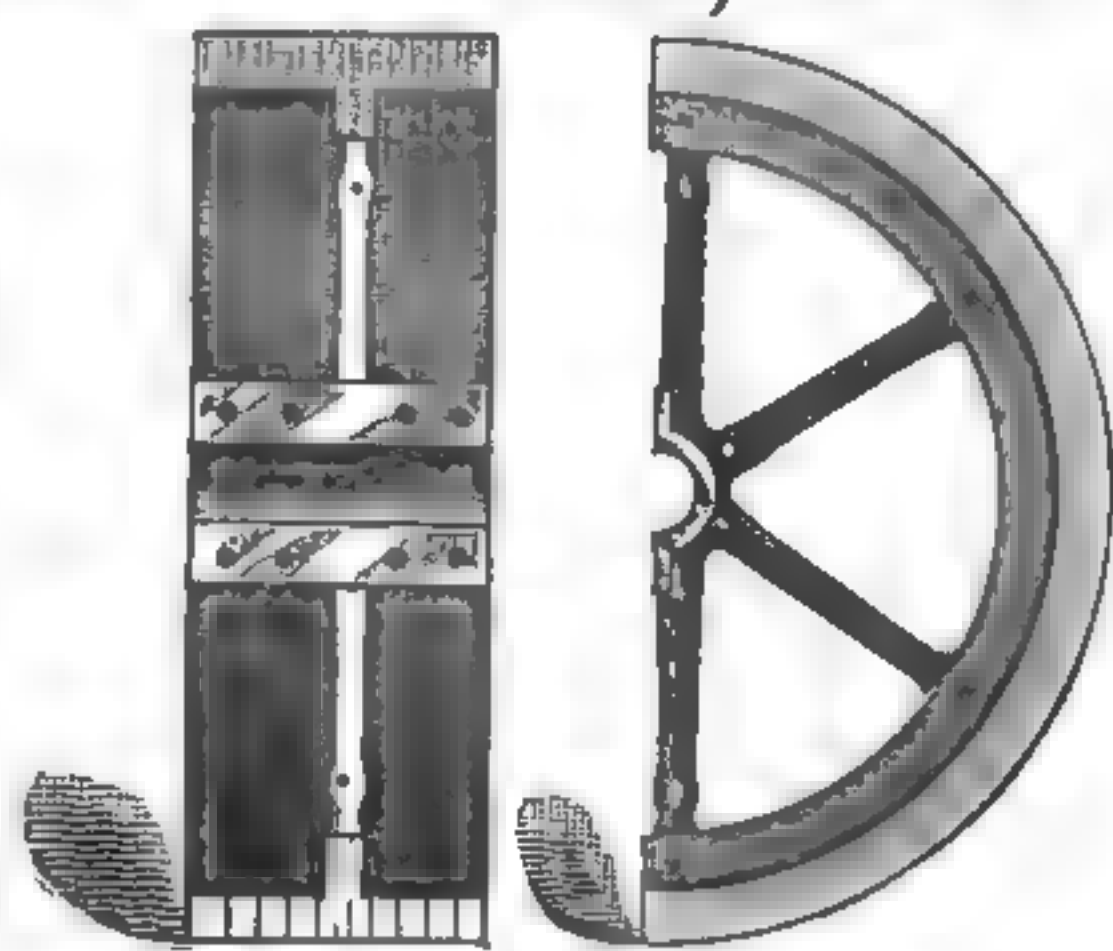
Wood Split Pulleys

WOOD RIM WITH IRON ARMS.

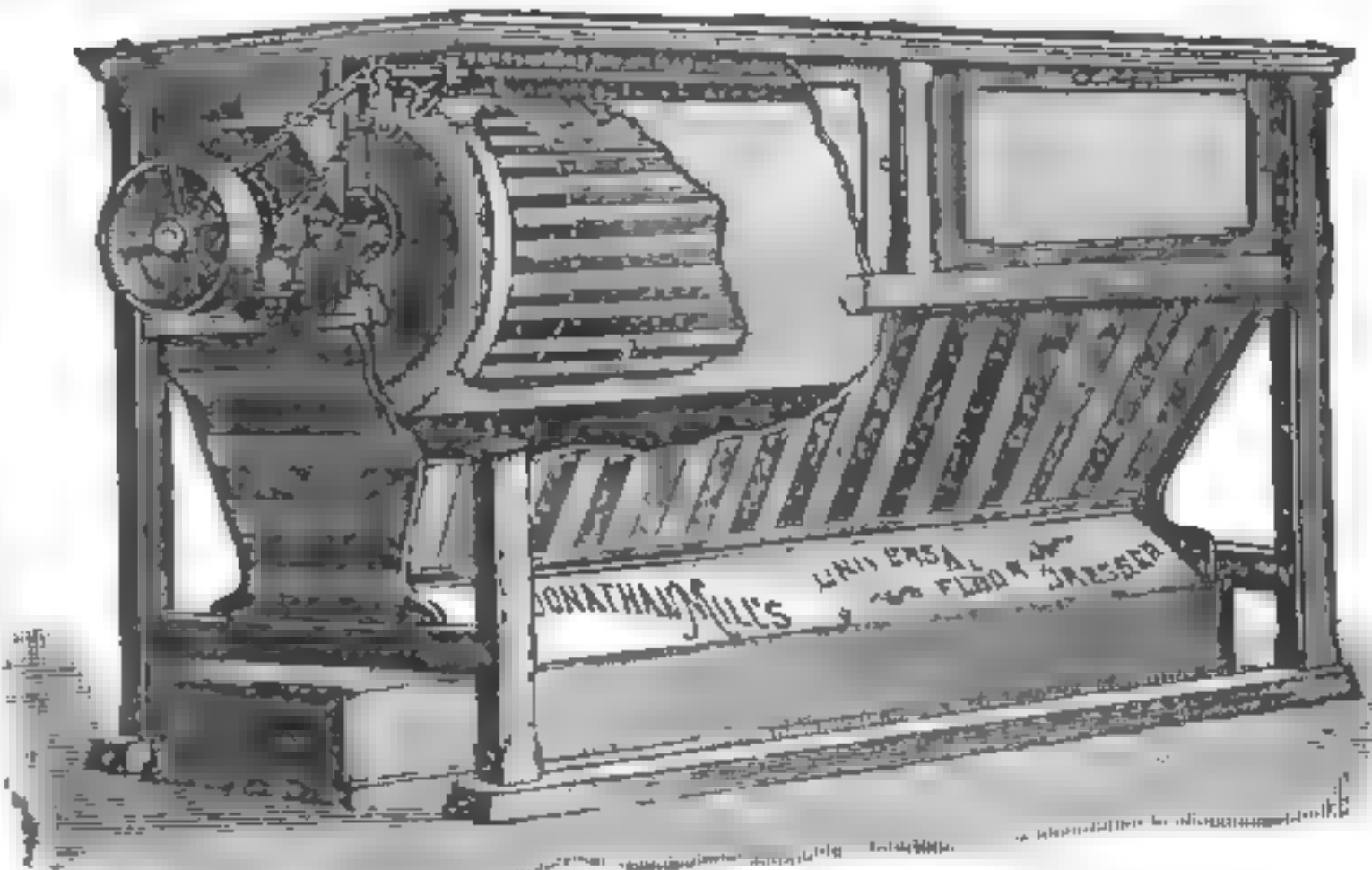
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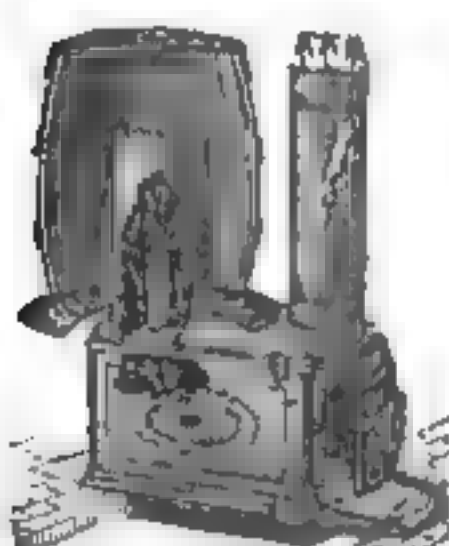
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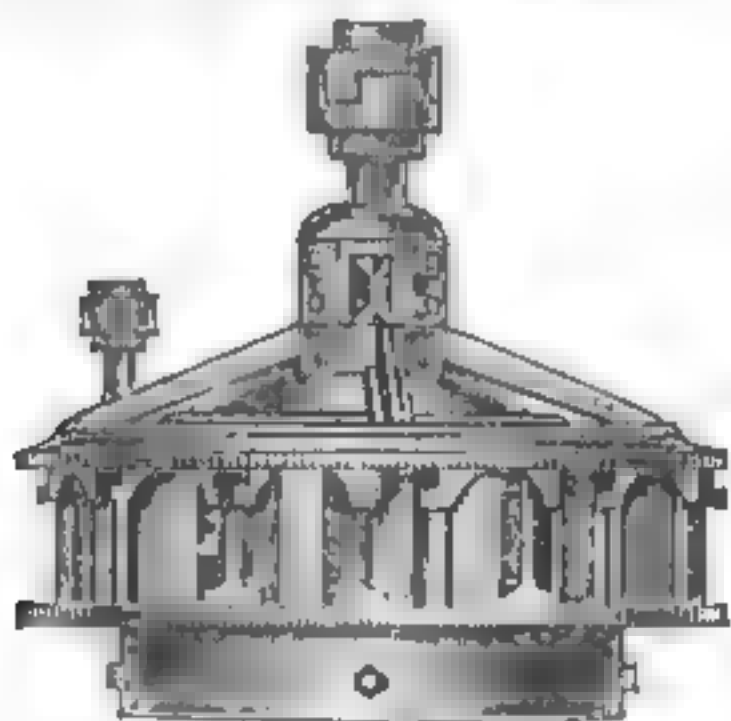
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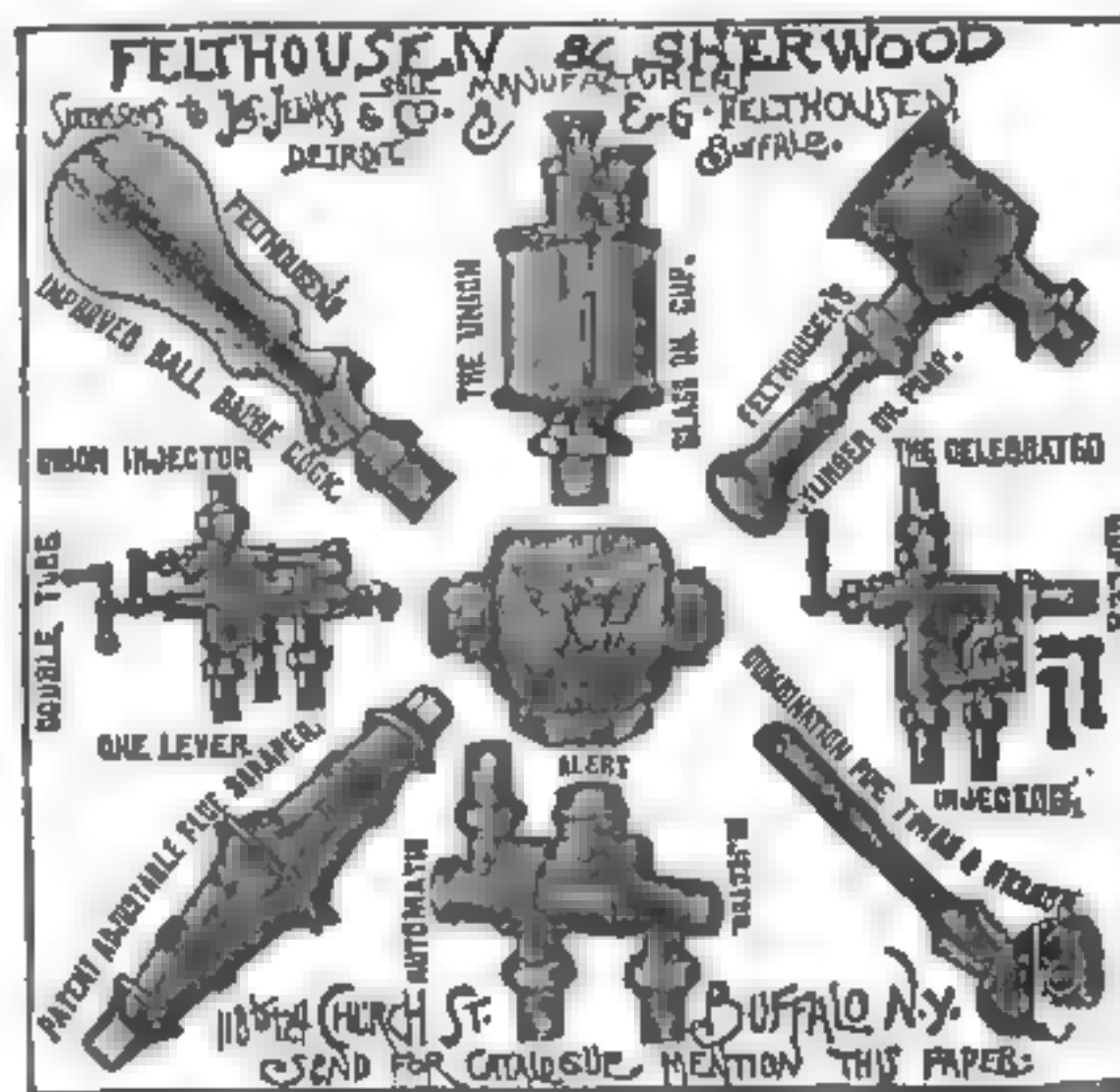
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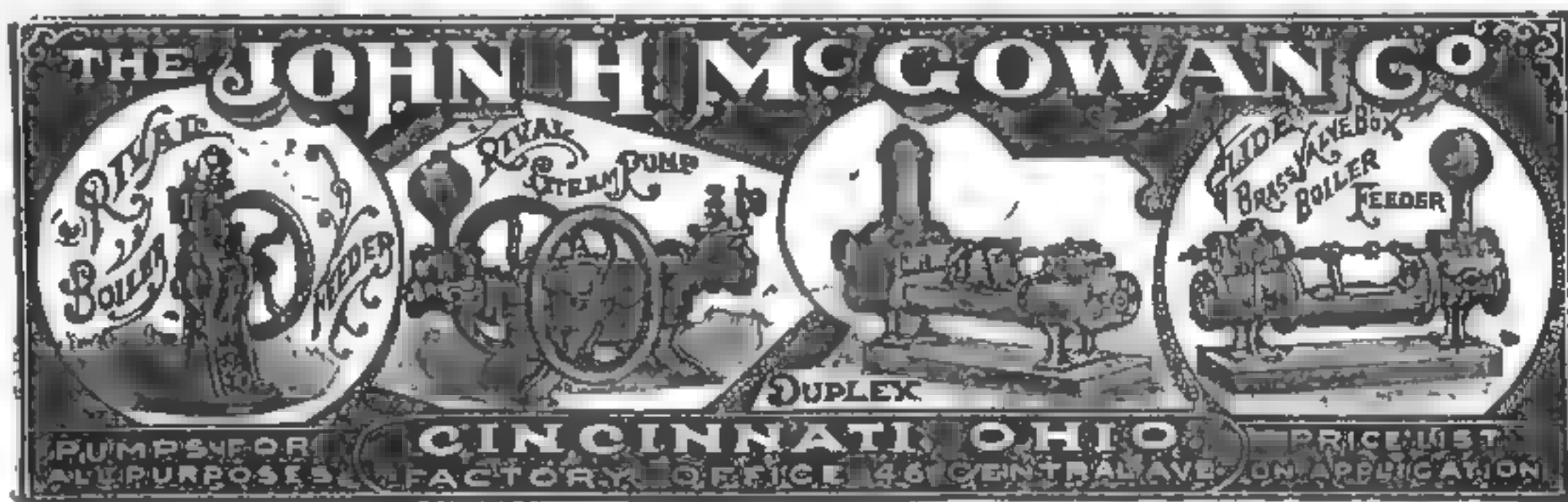
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CLOTHS MADE UP WITH PATENT BINDING WHEN DESIRED.

EUROPEAN ECHOES.

THE United Kingdom consumes 4,000,000 bushels of wheat and wheat flour weekly.

THE French Government will lay a bill before the Chamber providing for exempting from import duties all wheat intended for starch making.

IT is reported that a bill placing a heavy import duty on wheat, barley, oats and other grain will be introduced in the Belgian House of Deputies.

THERE is reason to believe that dirt and inferior seeds are mixed with Indian wheat to add to the profits, and that the system of "fair average quality," by which the acceptance of cargoes is governed, lends itself to such frauds. It is proposed to provide that, if cargoes contain an excess of 2 per cent. of such dirt and mixture, there must be a reduction of price. It is claimed that shipments of Indian wheat contain 16 per cent. of dirt and inferior seeds.

THE four-masted British clipper-ship *Reliance* arrived at Queenstown two weeks ago from San Francisco, having made the passage in the remarkably short time of 96 days. Her cargo, consisting of wheat, is one of the largest, if not the largest, ever carried in a sailing ship, and the number of bushels 143,850. Fifty-one other ships left the Pacific coast for Europe previous to the sailing of the *Reliance*. Their cargoes of wheat and flour are equivalent to about 4,000,000 bushels.

THE comparative fertility of the soils of France and England is being discussed in Paris, and probably the French agriculturist will be induced to use fertilizers that will make his land more productive. The average yield of wheat in France is 15 bushels per acre, while in England it is about 30 bushels per acre. The main difference is that England uses about 410,000 tons of fertilizers every year, which is more than four times as much as France uses to enrich three times as much soil.

M. GAUTIER de St. Croix writes to the "London Miller," pointing out that, owing to the incidence of the freight rates under the new Inter-State Commerce Act (Amended), there is a difference in favor of wheat when exported from Minneapolis to the United Kingdom, compared with flour, of 4s. per 280 pounds. The following table shows his method of arriving at this rather startling conclusion:

Carriage to New York from Minneapolis on 280 pounds of flour	
at annual mean rate of 32 cents per 100 pounds.....	91 cents.
Cost of carriage to New York of 375 pounds of wheat at 13.60c.	51 cents.
Difference in favor of wheat.....	40 cents.
Showing an average saving of 40 cents on wheat. The fact must not be overlooked, however, that 90 pounds of offal have been carried, so to say, free to the American seaboard.	
These 90 pounds would realize here	4s. 0d.
To be deducted:	
Ocean freight at 4d. per bushel.....	0s. 6d. }
Value of same at Western milling point.....	1s. 3d. }
Net advantage to U. K. miller.....	2s. 3d.

Producing a total difference in favor of wheat imported and ground this side over imported flour of just four shillings per sack of 280 pounds.

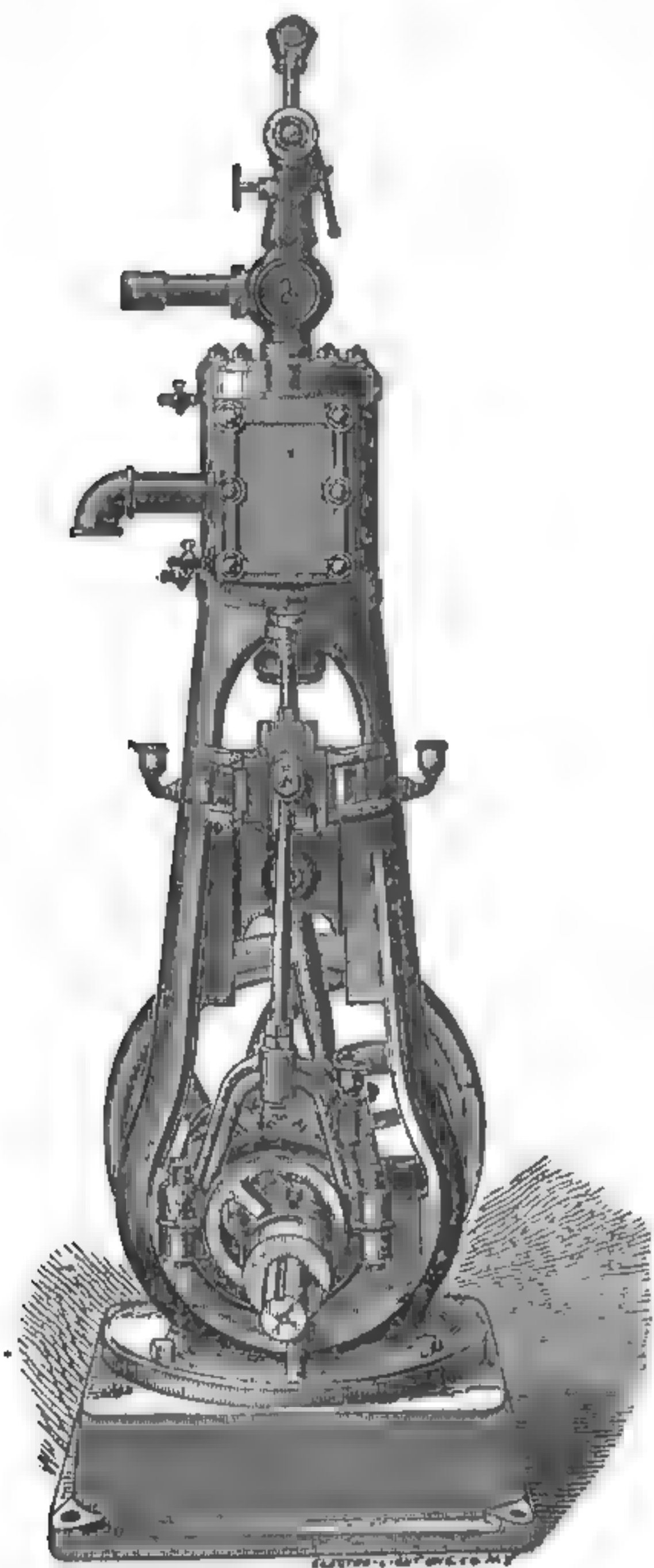
THE Agricultural Department of the English Government has issued a report on the wheat and rice weevil in India. It is estimated that this insect damages Indian wheat exported \$750,000 a year. Nothing is done to prevent its attack, which is continued during the passage of the grain to Europe. The writer of the report recommends that before new grain is put into a granary or other storehouse, all old grain should be removed, and the whole place thoroughly cleaned, the walls and ceilings whitewashed, all cracks in

the floor and corners filled up with fresh mortar, and the building disinfected with sulphur fumes.

IN response to the invitation issued by Lord Cross, Secretary of State for India, a number of representatives of the various commercial chambers and associations in the corn trade met at the India Office, London, on May 8, to consider the measures to be taken for diminishing the impurities in East Indian wheats exported to Great Britain. Lord Cross, in opening the proceedings, gave the following particulars: "Before the duty was taken off in 1873 the annual export only amounted to 17,000 tons, but the four years afterwards they averaged 137,000 tons, which average from the year 1883 went up no less than a million tons. Last year, when the harvest was a bad one, it dropped to 770,000 tons, but in the future, with good harvests and improved railway communication, they might expect the export of Indian corn largely to increase, to the great benefit of the inhabitants of that country and, he thought, to the consumers as well. The value of the corn for the last year before 1887-8 was 8,625,986 rupees, and the wheat was grown on 20 million square miles in British India and 9 million square miles in the native States. The object of their meeting seemed to be for the mutual benefit of growers, buyers and consumers, namely, to secure that the wheat that came to Great Britain should be as clean as it could possibly be. This was by no means the case now. At present it is shipped under an f. a. q. contract, and although that which came in the early months of the year was comparatively clean, in the three winter months it was dirty; in fact, the dirt in some of the wheat amounted to between 8 and 9 per cent., and at the present moment they went to the expense of paying for the exportation of 3,000,000 hundredweights of dirt every year from India, which was not a very business-like proceeding, for it was equal to an export duty or tax of 1½ per cent. He understood that the Liverpool Chamber of Commerce had now stipulated that the dirt should not exceed 2 per cent. Both Italy and France refused to import wheat which was not much cleaner than that received in England. It was time, therefore, for the corn trade in England to take some action in the matter." The meeting disclosed considerable differences of opinion, the London Corn Trade Association presenting a statement arriving at the following conclusions: The natural condition of Indian wheats at present is to contain about 4 to 5 per cent. admixture, and it is not practicable to induce Indian shippers to substitute an artificial refraction of 2 per cent. That buyers are not prepared to pay a proportionately higher price for cleaner wheats, and that the conditions of the Indian wheat trade are slowly gradually improving, and that it is preferable to let the improvement come out of the trade itself rather than endeavor to force it by governmental interference between seller and buyer. The Liverpool representatives, on the other hand, advised the adoption of the 2 per cent. refraction clause by home buyers, making that a fixed standard throughout the country, and were less opposed to the Government taking action in the matter than were the London delegates. They considered that, as Liverpool handled three-fourths of Bombay and four-fifths of Kurrachee wheat imported into the Kingdom, their views were entitled to considerable weight. The meeting separated without practical outcome in the shape of resolutions, but it is considered that it will not be without its influence on future shipments of Indian wheats to Great Britain.

PREVENTION of disease is both rational and scientific. If one knows the causes of most diseases, and can remove that cause, the diseases must disappear. Prof. Wm. H. Thompson of the University of the City of New York, says: "More adults are carried off in this country by chronic kidney disease than by any other one malady except consumption." The majority per cent. of all diseases are caused by unsuspected kidney poisoned blood. The late Dr. Dio Lewis in speaking of Warner's Safe Cure, said over his signature: "If I found myself the victim of a serious kidney trouble, I would use Warner's Safe Cure."

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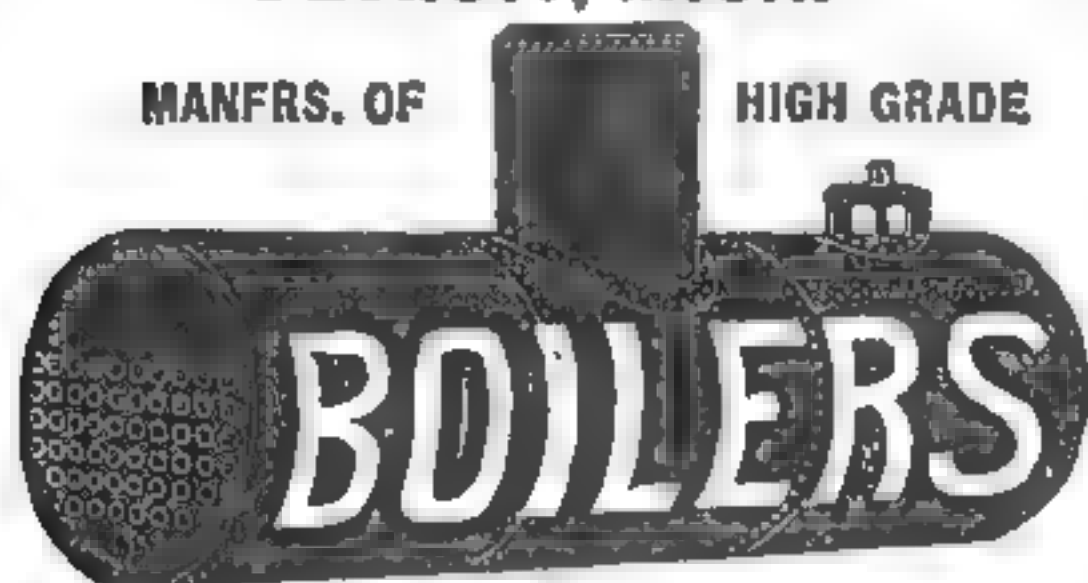
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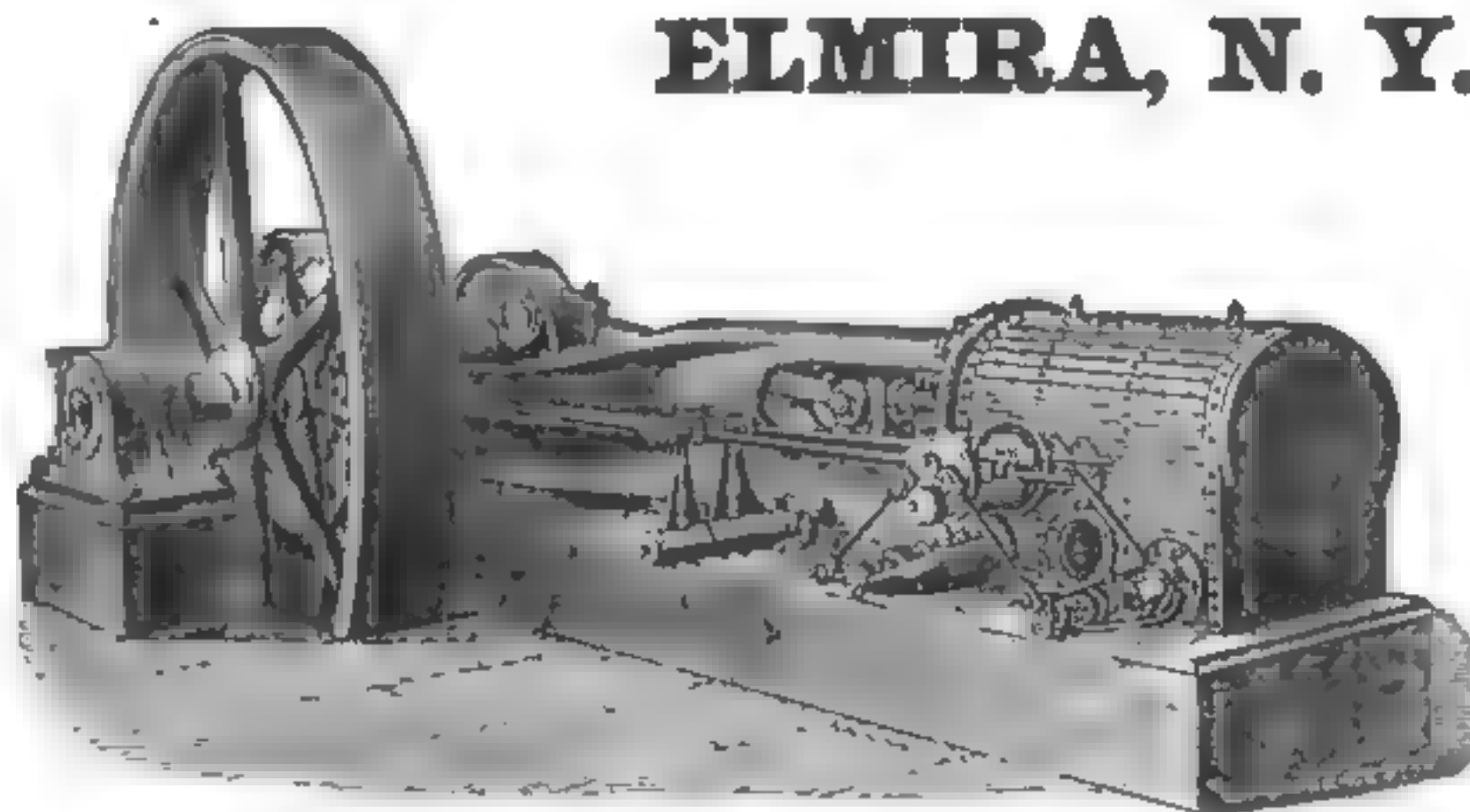
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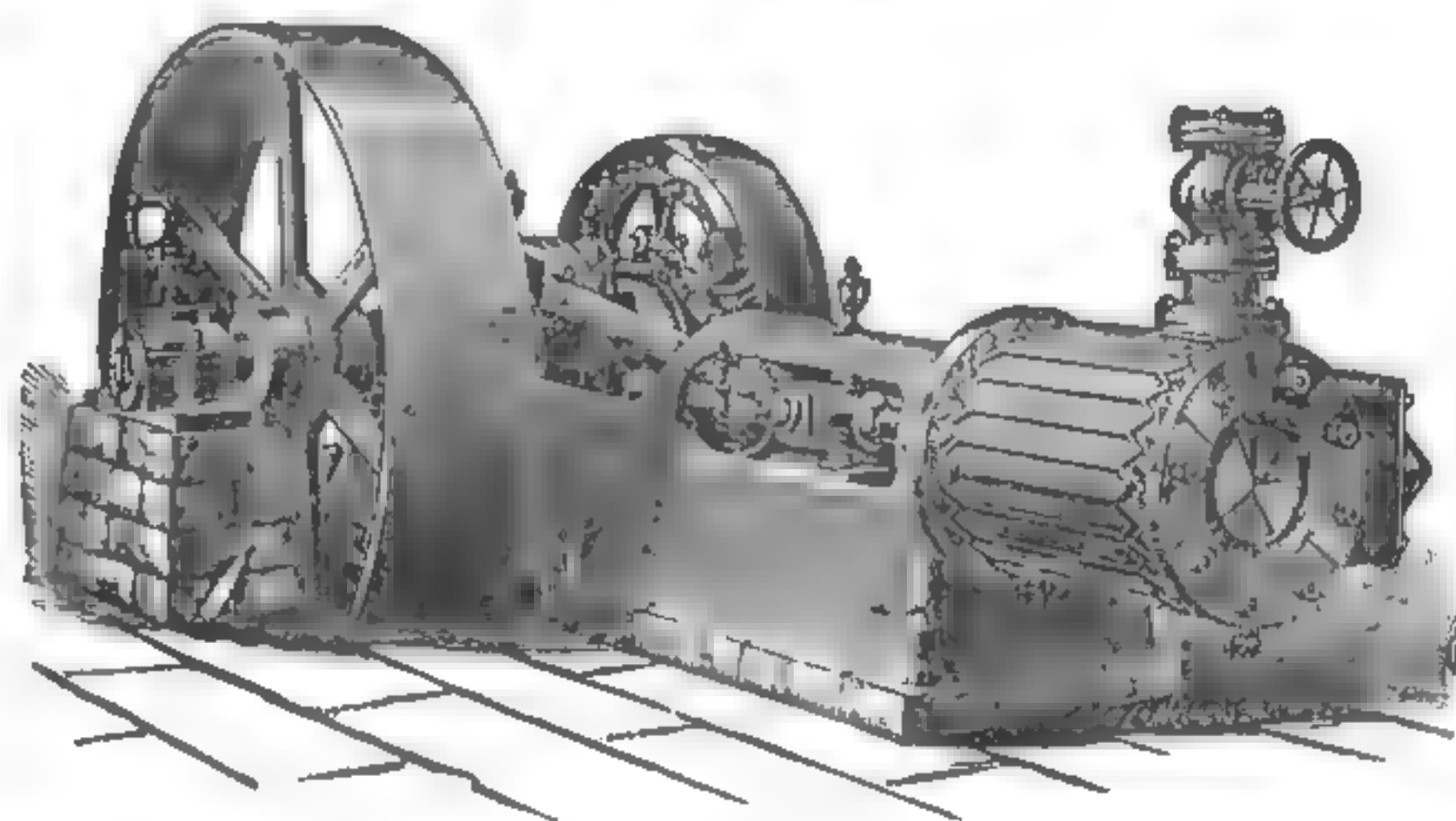
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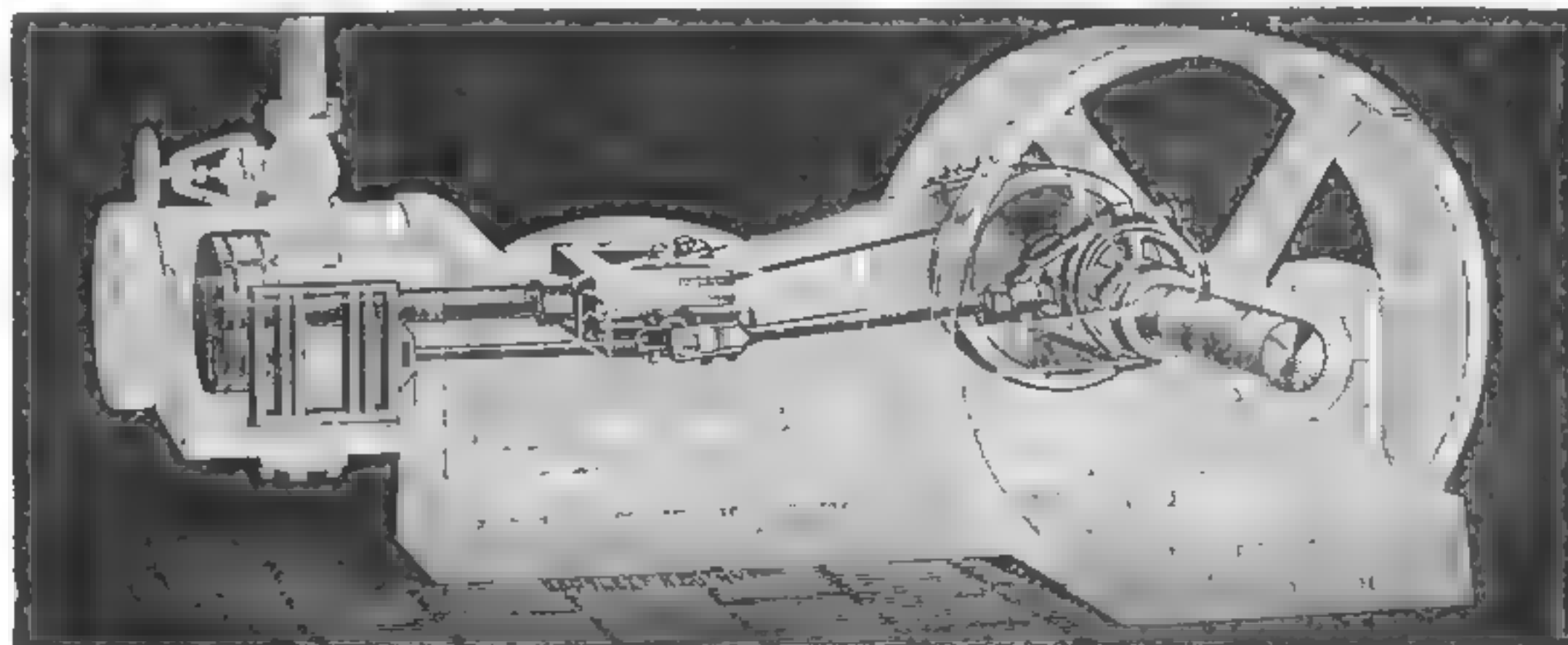
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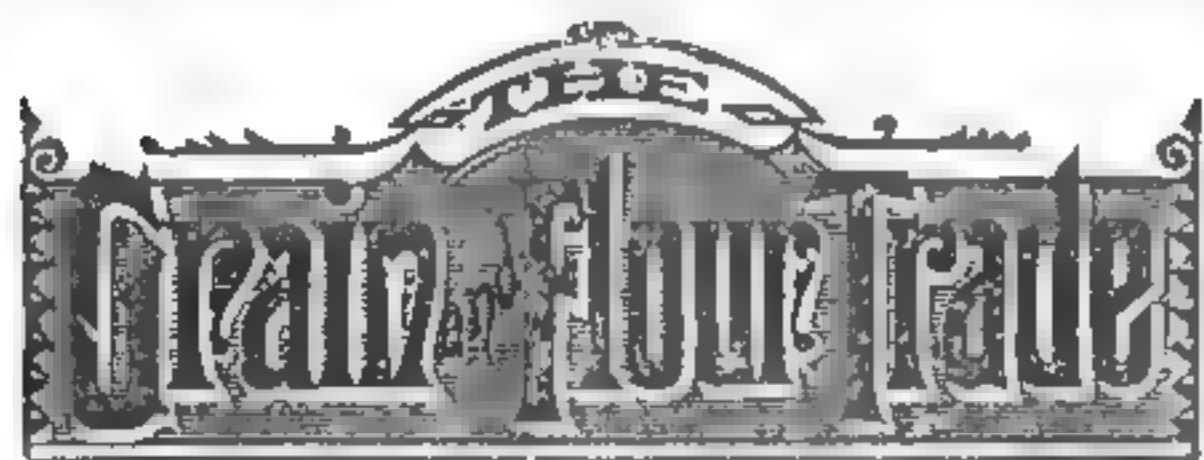
VALLEY IRON WORKS, WILLIAMSPORT, PENN.

THE NEW PORTER HEAVY-DUTY ENGINE.



The Most Power for the Money, and All Things Considered the Most Economical.
For Illustrated Circular Address,

PORTER MANUFG. CO., LIMITED, SYRACUSE, N. Y.



OFFICE OF THE MILLING WORLD,
BUFFALO, N. Y., May 25, 1889.

On Friday of last week the continued fine weather and good crop prospect reports every where, with long selling, made the markets dull, weak and easy all around. May wheat closed at 82½c. Options 1,432,000 bushels. May corn closed at 42c. and oats at 28½c. Trade in both was moderate. Wheat flour was dull and heavy, with Liverpool cables off 3d. per cental, making a total decline of 9d. per cental for the week. All export business was stopped in consequence. Home dealers were holding off for a still further decline. The minor lines were featureless.

On Saturday fine weather everywhere and enormous receipts of corn at Chicago flattened the markets. May wheat opened at 82c. and closed at 81½c. Options 600,000 bushels. May corn closed at 41½c. and oats at 28½c. Wheat flour was dull, unchanged and featureless. The minor lines partook of the general dullness.

On Monday the wheat for future months was forced for sales at the premium over the options on the 1889 crop, and that forcing made the markets again dull and lower. May wheat closed at 81½c. Options 1,500,000 bushels. May corn closed at 41½c. and oats at 28½c. Wheat flour was dull and unchanged. Business was small. The minor lines showed no marked features.

On Tuesday the markets were dull, weak and lower on heavy long selling in wheat. Receipts in Chicago and New York were heavy. May wheat closed at 80½c. Options 2,240,000 bushels. Among disquieting reports during the day was a statement issued from Cincinnati indicating the largest wheat acreage and the best prospects for the largest crop on record. May corn closed at 41½c. and oats at 28c. Compared with a year ago wheat was about 15 cents lower, corn 23 cents lower and oats 9 cents lower. Wheat flour was unsettled and irregular, with trade brands generally easier. Sales were moderate. The minor lines were featureless. It was announced on the Produce Exchange that Messrs. French, Edye & Co. had chartered a British steamer of 80,000 bushels capacity to load wheat at Odessa for Rio Janeiro. The rate paid was 37s 6d per ton. Following as it does upon the charter of the steamer "James Watt," which was on Friday chartered from New York to Montevideo with 68,000 bushels, the announcement was received with decided interest by the grain trade as bearing out the report the River Plate will need considerable wheat this year. An interesting feature of the Odessa charter is that, figuring the 37s 6d per ton into its equivalent per bushel, it is 5@6c per bushel less than the rate from New York to Montevideo as established by the charter of the "James Watt" on Friday.

On Wednesday the fine weather and good prospects reported everywhere again weakened the markets. May wheat opened at 80½c., sold down to 80c. and closed at 80½c. Options 3,160,000 bushels. Exporters took several loads for Europe. May corn ruled at 41½c. and oats at 28½c. Rye grain was dull at 50c. spot for Western afloat, 52@53c track, 56c. No. 1 elevator, 55c. State afloat. Malt was slow and steady at 90c. @ \$1 for Canada, 85c. for 2-rowed State, and 86@90c. for 6-rowed. Mill-feed was dull at the following quotations: 60@65c for 40-lbs; 55@60c for 60-lbs; 60@65c for 80-lbs; 72½@80c for 100-lbs and sharps; rye, 75c; oil meal, \$1.27½@1.32; cotton seed meal, \$1.25@1.35.

Wheat flour was less active, more irregular and generally weaker. Buyers were few. Concessions were regularly made. Exporters' limits were reduced, on fine weather in Europe, and no orders were filled for those markets and but small ones for the West Indies. Patent

springs were weakening in absence of demand for every thing but the best known brands, which are worked off on orders to regular trade at old prices. But they could not be sold at close without concessions. Following are the quotations:

SPRING FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.70@1.85	\$....@....
Fine.....	2.10@2.15	2.25@2.50
Superfine	2.30@2.60	2.70@3.00
Extra No. 2.....	2.90@3.10	3.00@3.25
Extra No. 1.....	3.30@3.75	3.50@4.25
Clear	3.35@3.75	3.75@4.00
Straight	4.45@5.00	4.50@5.25
Patent	5.30@5.60	5.15@6.85

WINTER FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.80@2.00	\$....@....
Fine.....	2.20@2.50	2.35@2.60
Superfine	2.60@3.00	2.90@3.15
Extra No. 2.....	3.10@3.40	3.35@3.60
Extra No. 1.....	3.50@4.25	3.80@4.80
Clear	3.75@4.10	4.00@4.50
Straight	4.25@4.60	4.50@4.85
Patent	4.50@4.75	5.00@5.35

CITY MILLS.		
	Sacks.	Barrels.
W. I. grades.....	\$4.30@4.45	
Low grades.....	2.35@2.65	
Patents.....	5.00@6.00	

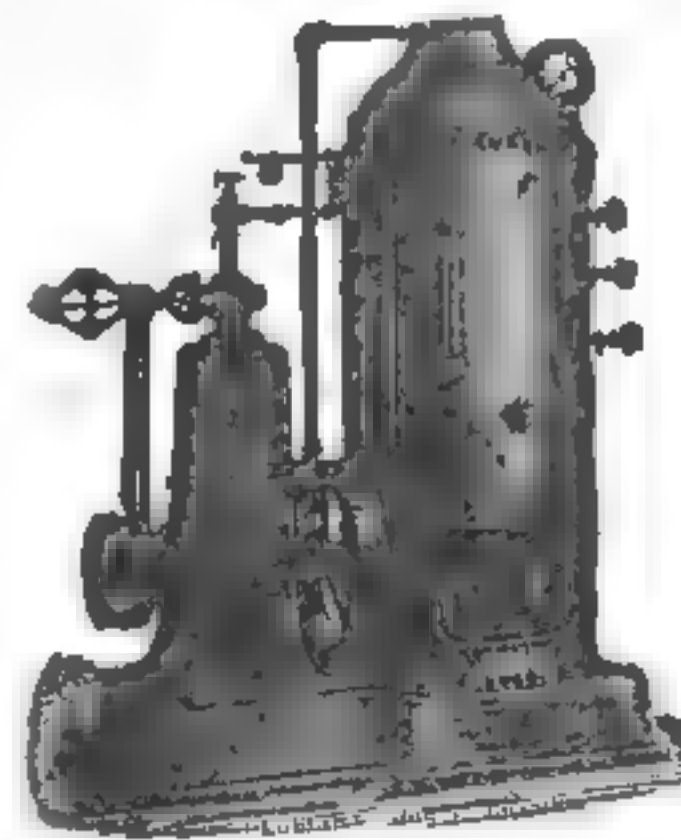
Rye flour was dull, with the prices ranging from \$2.75 @ 3.00. Sales small. Corn products were dull at the following quotations: 83@85c for coarse meal in bags, 95c@1.00 for fine yellow, \$1.00 for fine white, 80c@1.30 for the whole range on southern in bags, and \$2.75@3.25 in barrels, including granulated. Hominy, \$3.50@3.60. Brandywine, \$2.85.

On Thursday the markets were unchanged. Favorable crop reports continued. May wheat closed at 81c. Options 1,192,000 bushels. May corn closed at 28½c. Sales were small. Wheat flour was dull and unchanged. The minor lines were quiet and featureless.

BUFFALO MARKETS.

WHEAT—Weak and lower; old hard quoted at \$1.20 and new do at \$1.02½; 98c was bid on new No. 1 Northern and 98½c asked; No. 2 do was quoted at 83c. Sales comprised 2,500 bu old No. 1 Northern at 98½c. and a few carloads new No. 1 hard at \$1.03. Chicago May wheat opened at 83c, highest, 82c; lowest, 81½c; and closed at 81½c; a decline of ½c from the opening prices and a decline of ¼c from yesterday's closing price. July wheat opened at 76½c; highest, 76½c; lowest, 75½c; and closed at 76½c; a decline of ½c from the opening price, and an advance of ¼c from yesterday's closing price. Winter wheat firmer. No. 1 white was quoted at 90c; No. 2 red at 91@91½c; No. 3 do at 80@82c; No. 3 extra do, 83@84. Sale, 1 carload No. 3 extra red at 83c. in store. CORN—Steady. No. 8 was offered at 87c. Sales were made of 2 boatloads No. 2 yellow at 88½c. 4 carloads No. 2 do at 88c, 8 do No. 2 corn at 87½c. 2,000 bu do do at 87½c. and 1 carload do at 88c. on track. OATS—Unsettled with a fair demand. No. 2 white quoted at 81½c for choice, 81½c; No. 3 do 80½c, on track, and No. 2 mixed 26@26½c. CANAL FREIGHTS—Firm. Rates of freight on wheat to New York 4c. on corn 3½c, on oats 2½c. and on rye, 3½c; lumber rates to New York \$2.25. to Albany \$1.75. RYE—Nominal at 52@53c for No. Western. FLOUR—City ground—Patent spring \$5.28@5.50 straight Duluth spring, \$5.75@6.00; bakers' spring, best, \$5.50@5.75; do rye mixture, \$4.75@5.00; patent winter, \$6.25@6.50; straight winter, \$5.00@5.25; clear winter \$4.75@5.00; cracker, \$4.75@5.10; graham \$4.75@5.00; low grade, \$3.08@4.00; rye, \$3.25@3.50 per bbl. OATMEAL—Akron, \$8.00; Western \$5.75 per bbl; rolled oats, in cases, 7½ lbs \$3.25. CORNMEAL—Coarse, 80c; fine, 85c; granulated, \$1.50 per cwt. MILLFEED—Quoted as follows: Coarse spring bran, \$12.00@12.50; medium do do, \$11.75@12.25; coarse winter bran, \$15.50@18.00; medium do do, \$14.50; coarse middling, \$3.75; medium do, \$14.00; choice white middlings, \$12.50; fine do do, \$15.00; medium do do, \$14.50.

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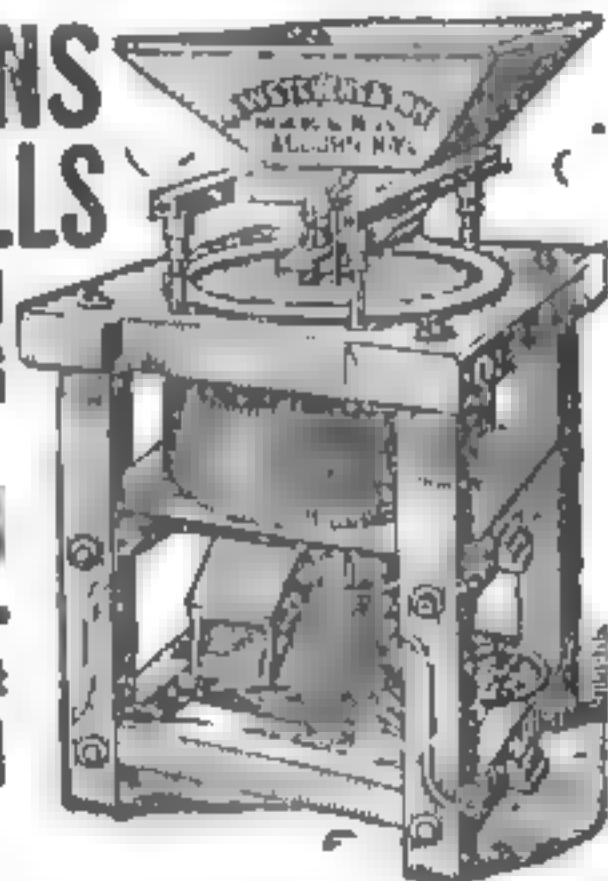
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N. BUSSENDORFFER.

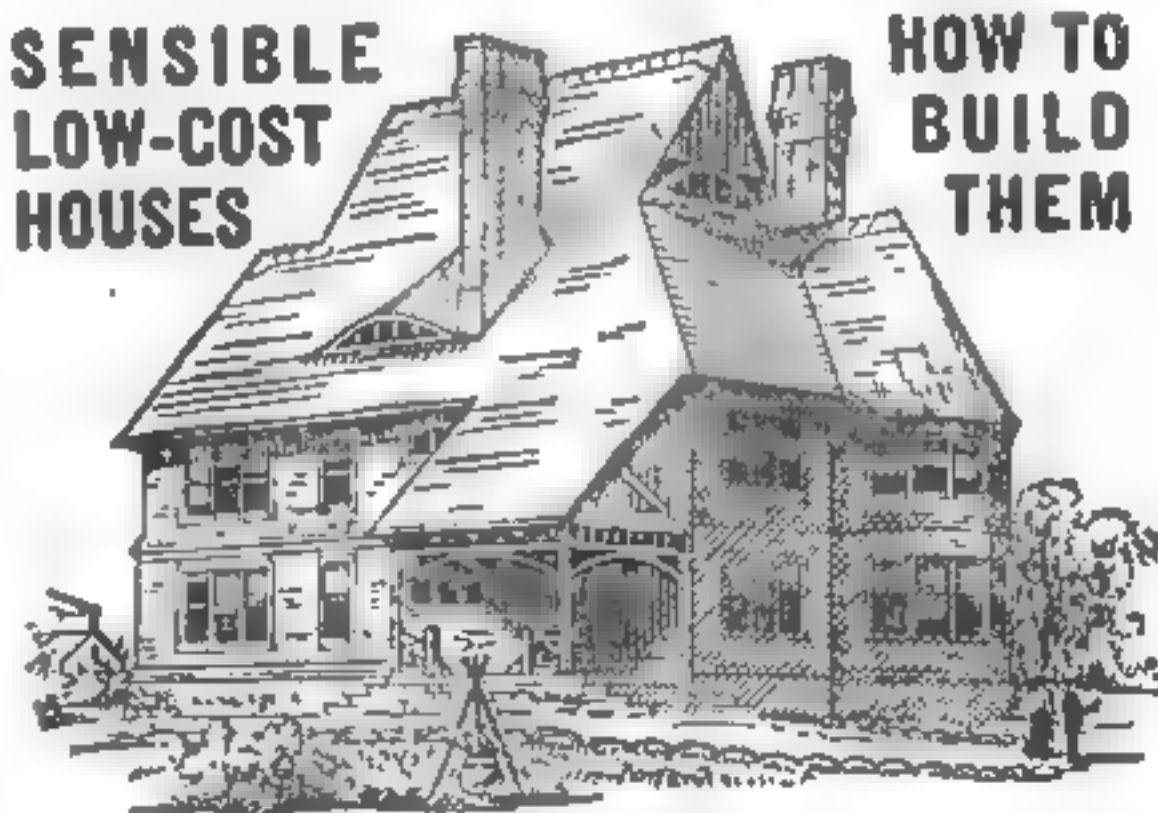
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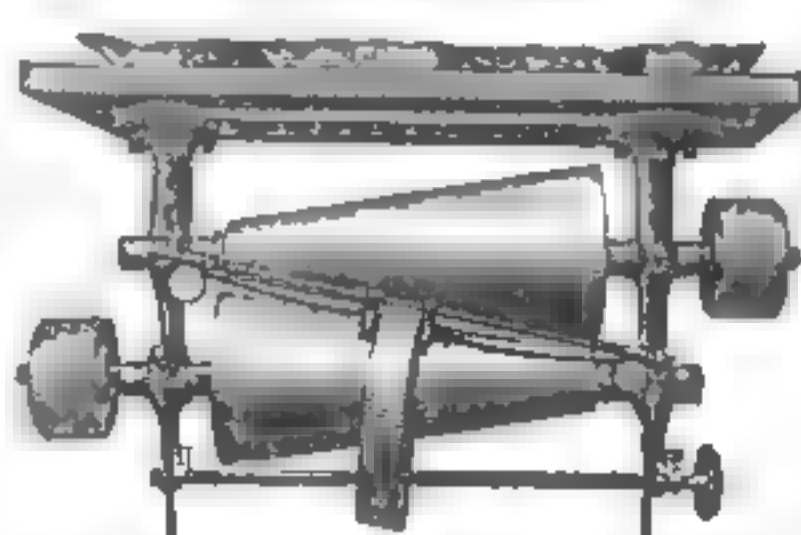
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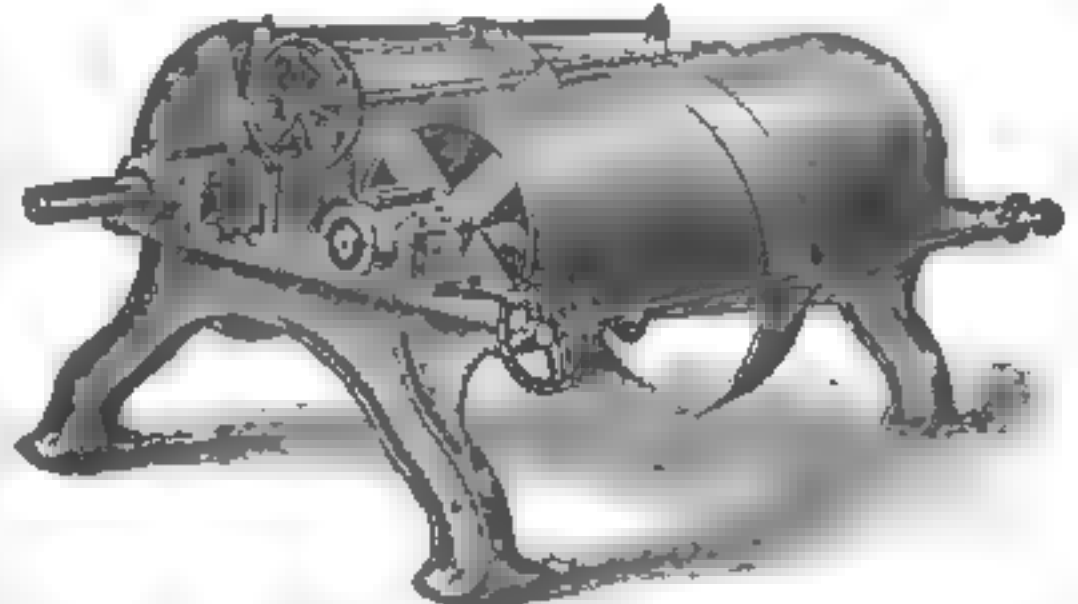
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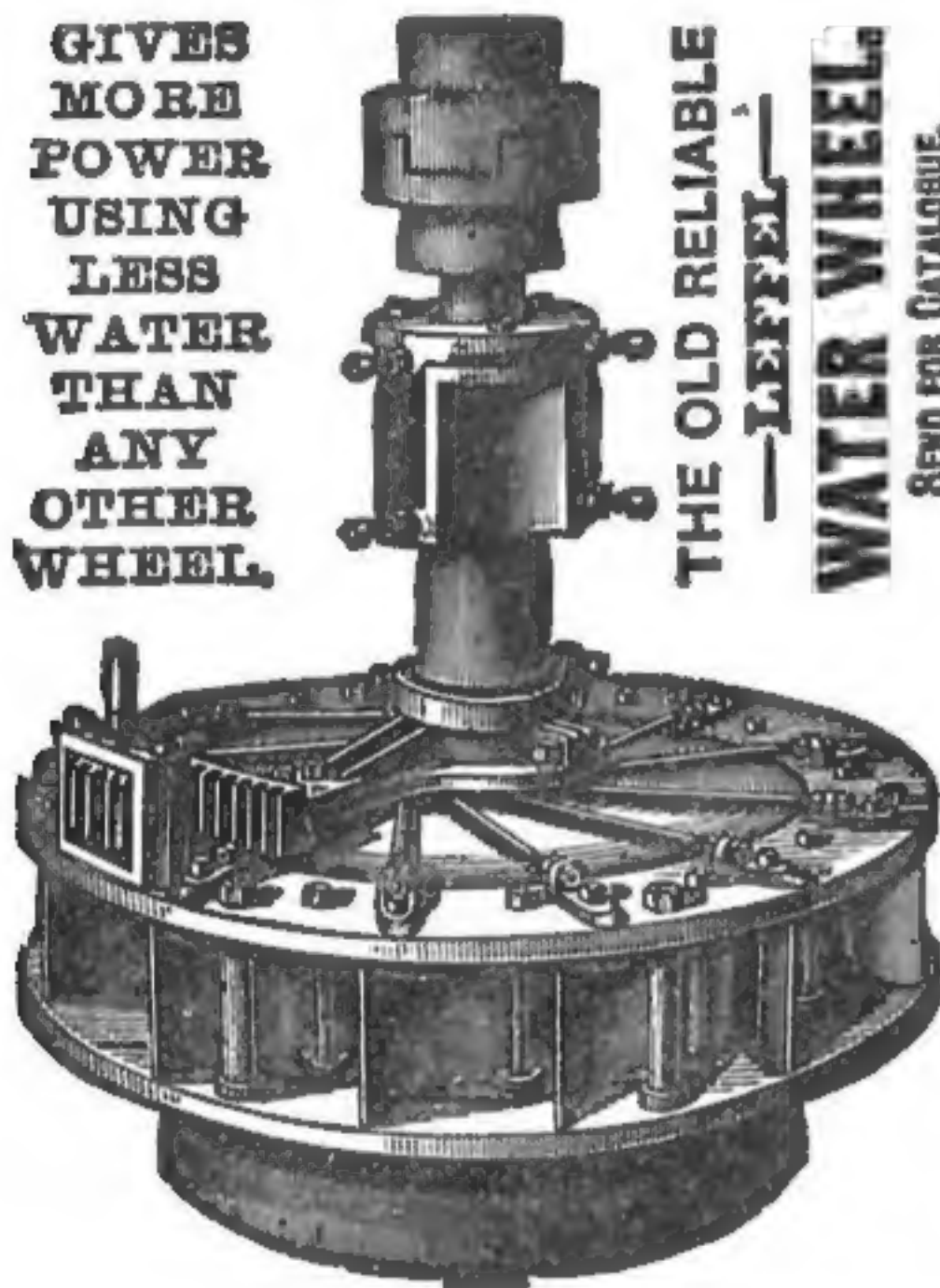
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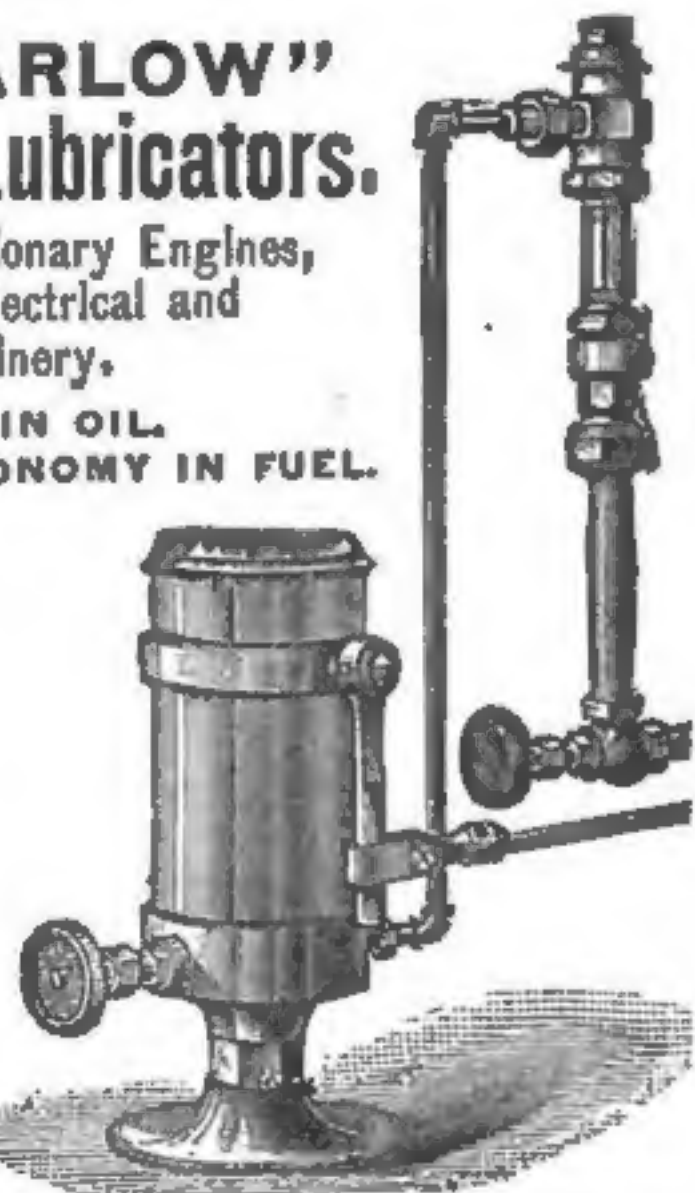
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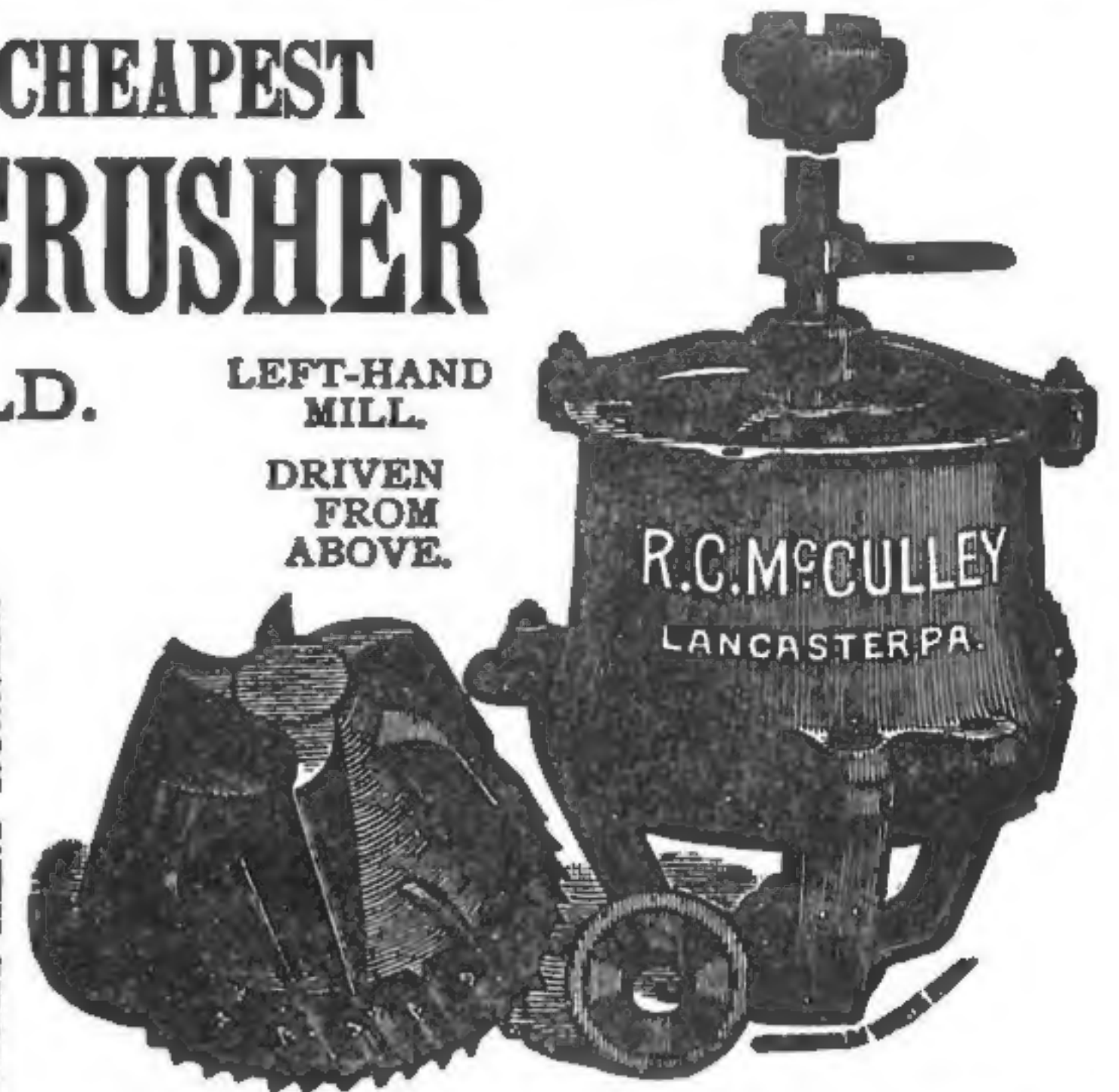
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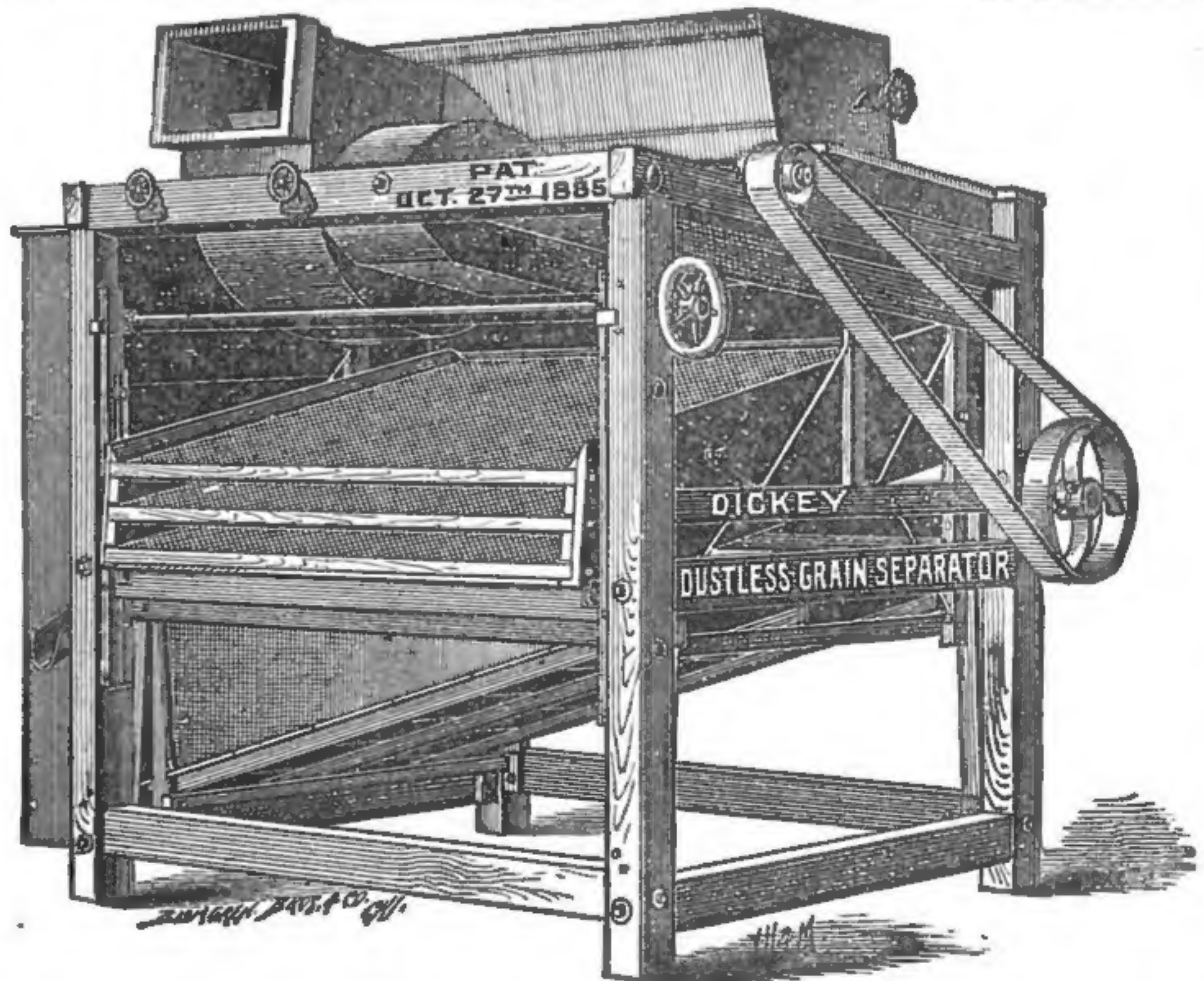
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WE CLAIM FOR IT SUPERIORITY.

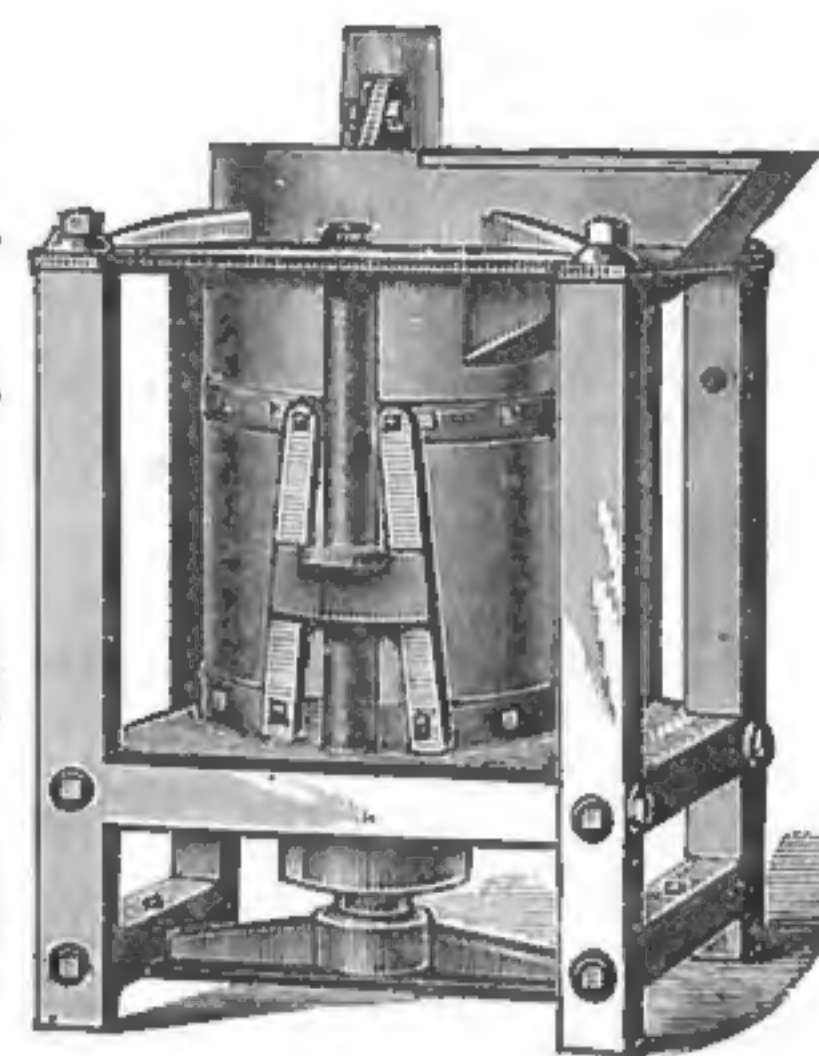
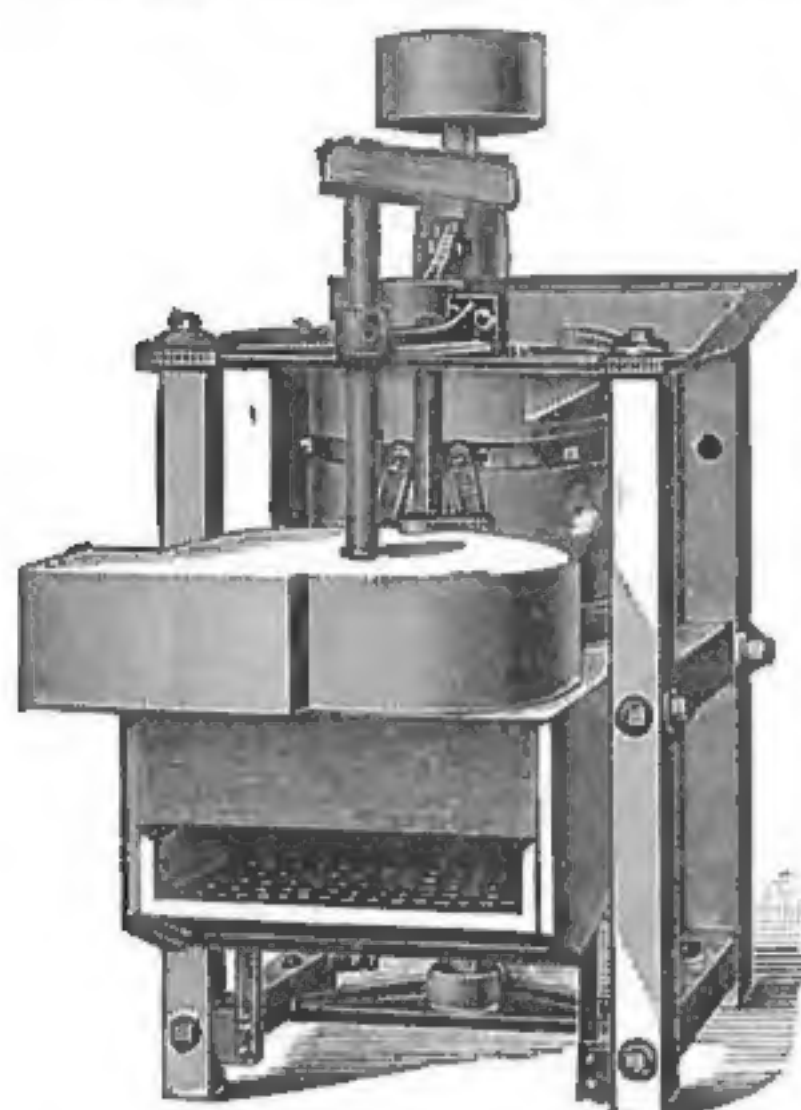
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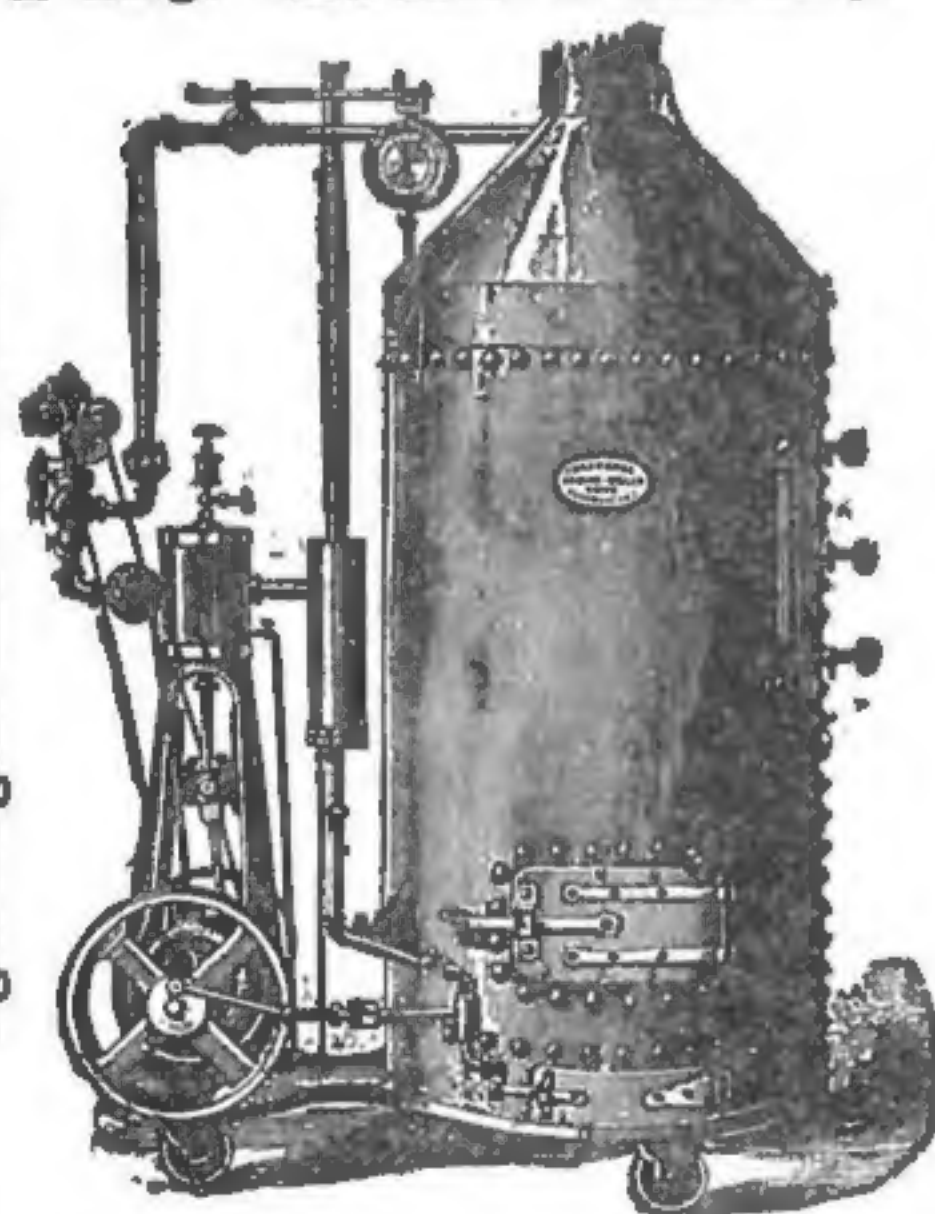
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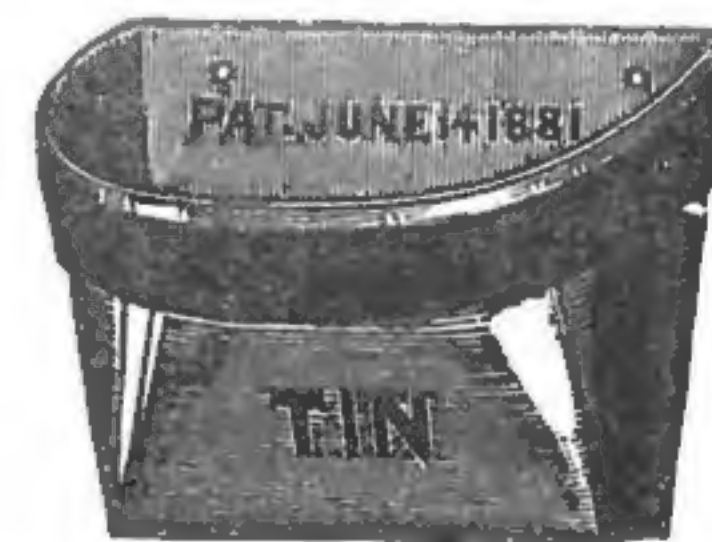
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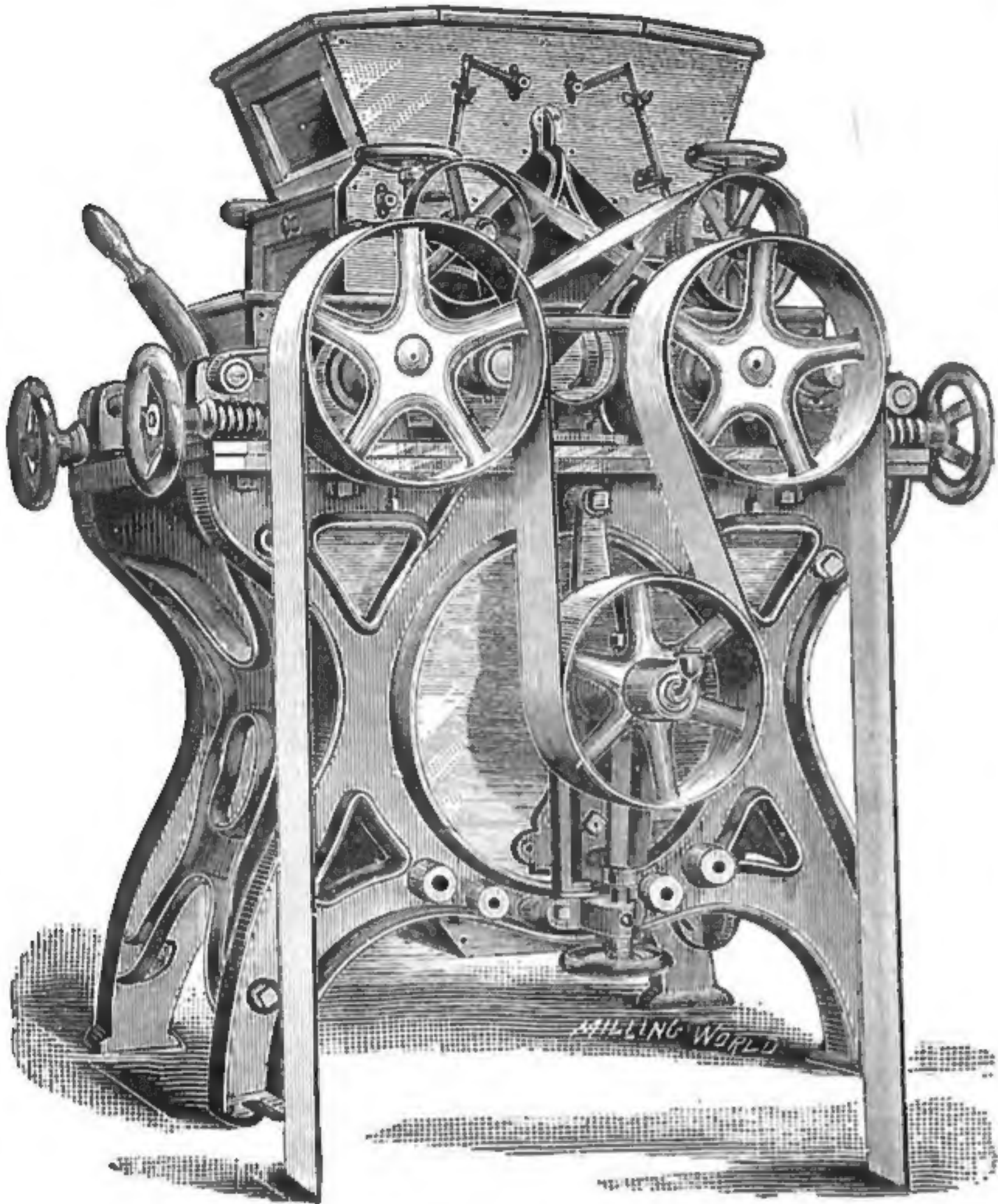
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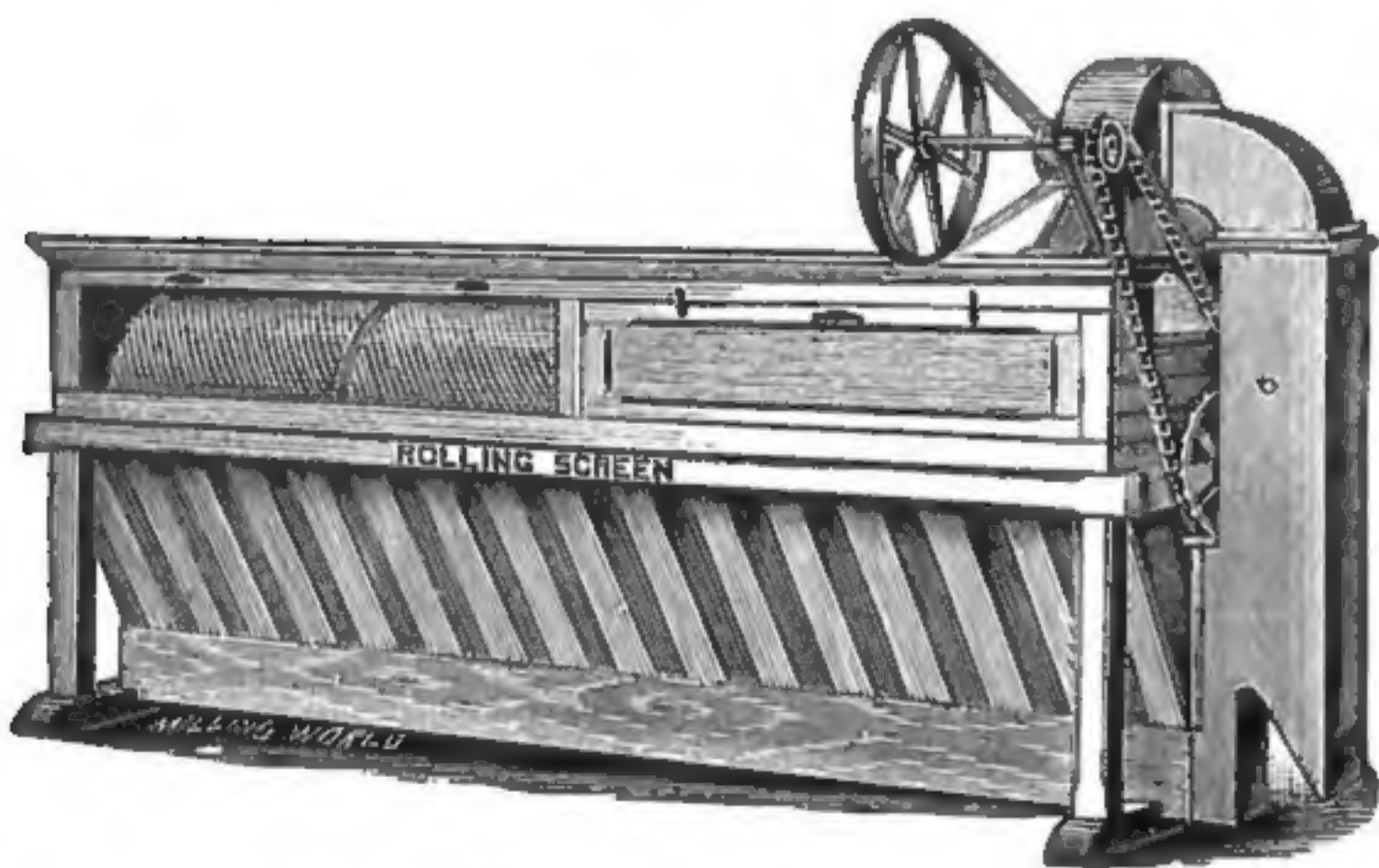
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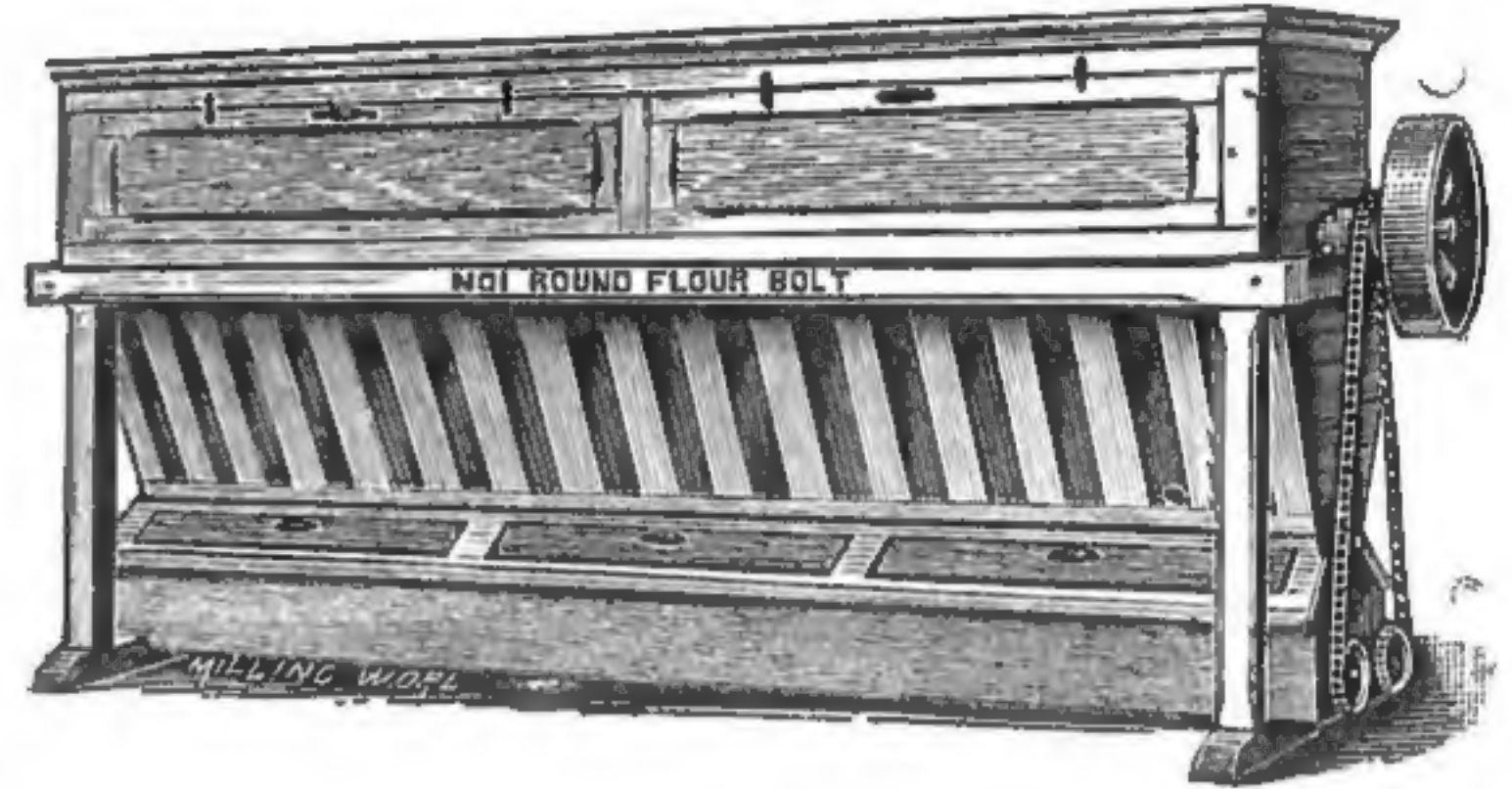
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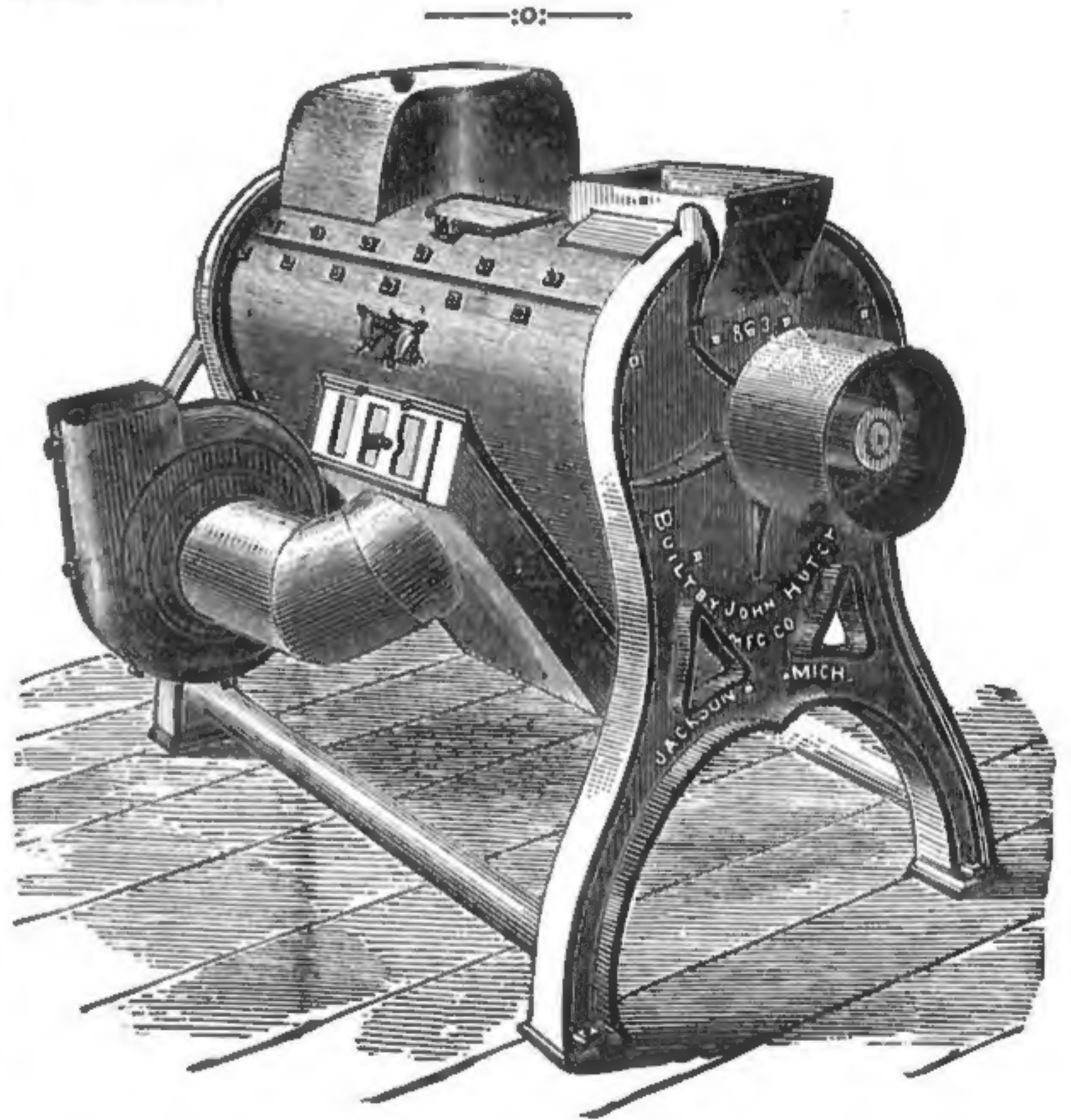


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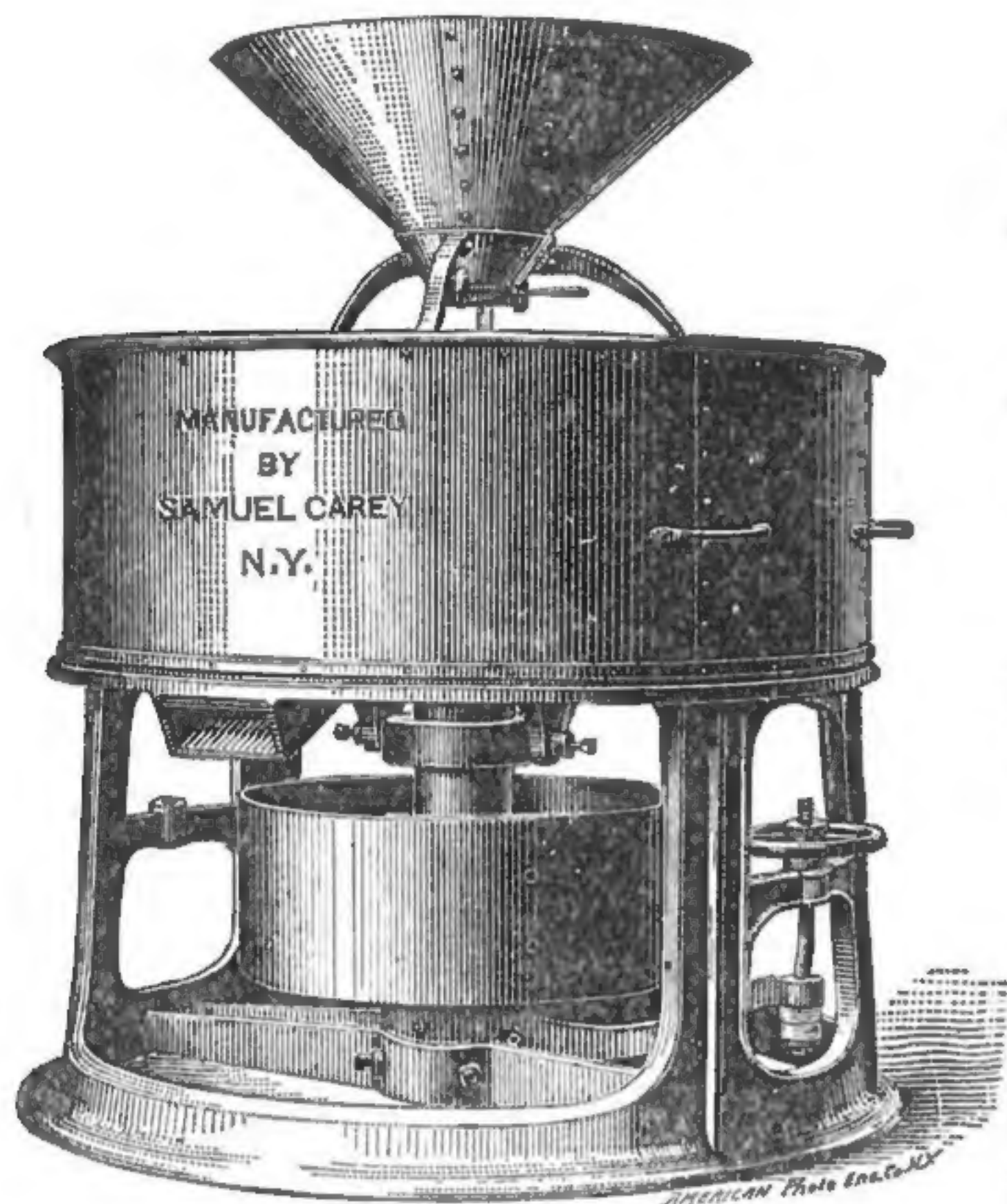
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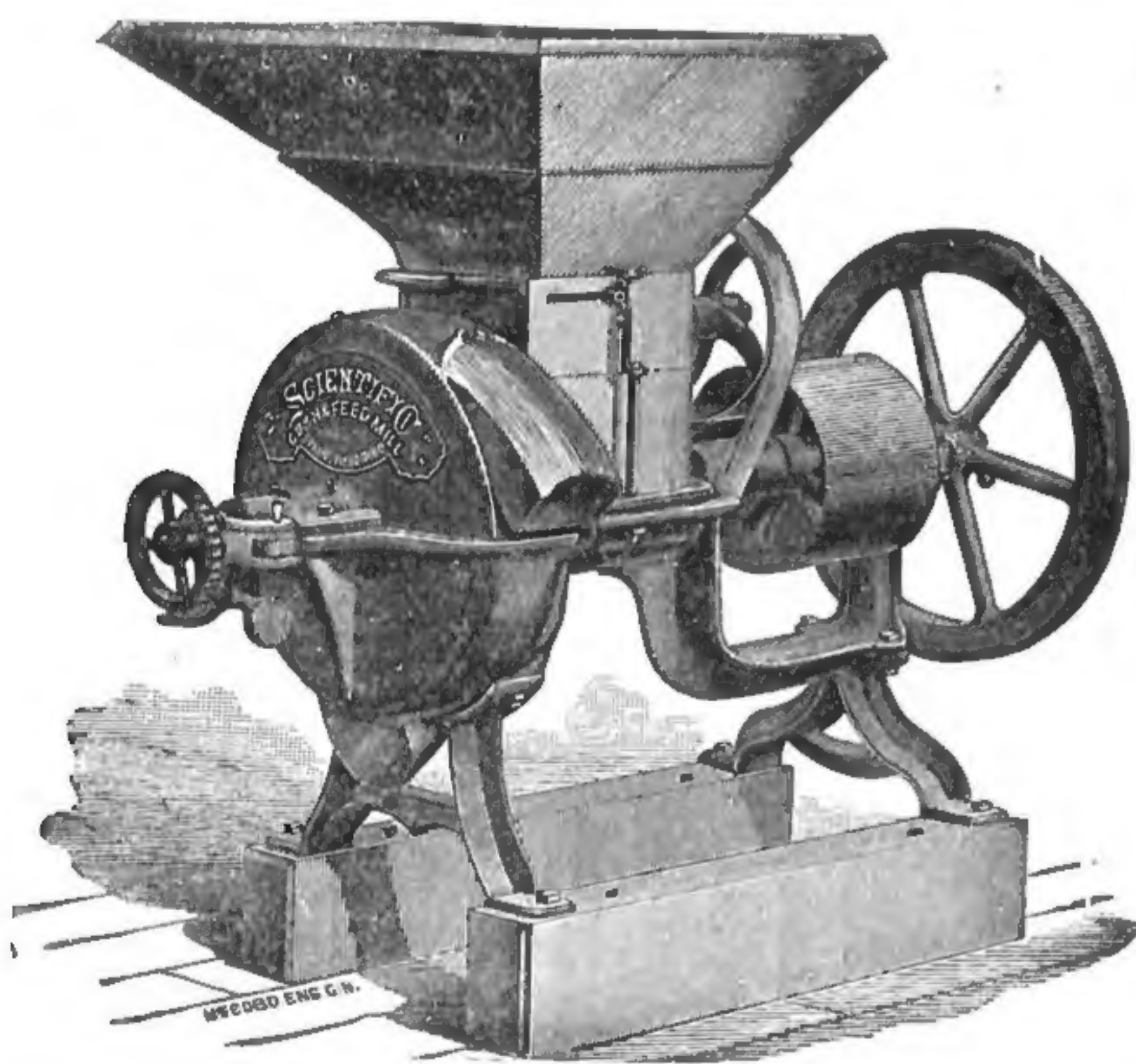
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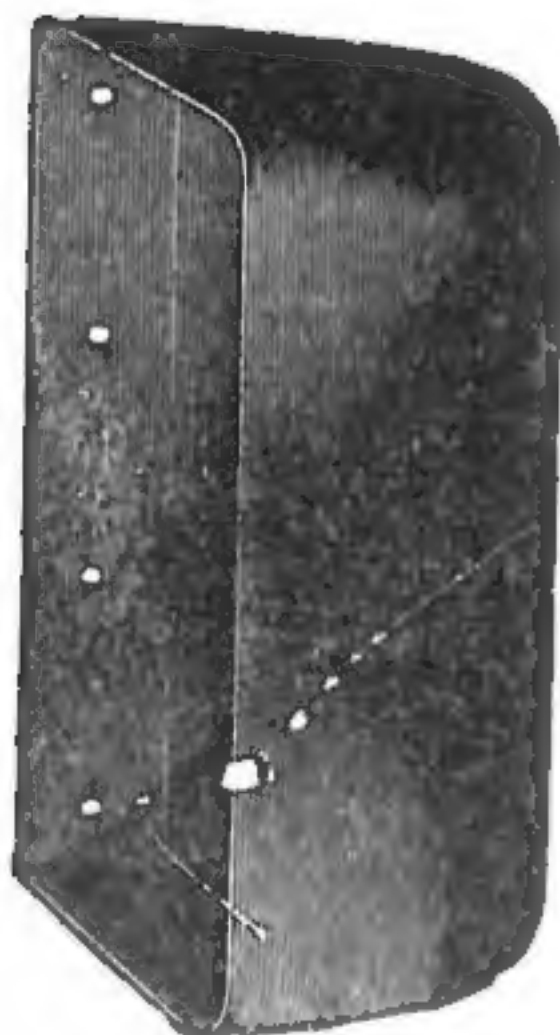
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